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AUTHOR McPartland, James M.; Dawkins, Russell L.
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ABSTRACT

Employer recruitment methods and how their use varies by race and sex groups, by public and private sector, by education level, and other variables were studied to develop and examine more realistic theories of education's role in career development processes and to develop practical ways to help students make a successful transition from school to work. The job recruitment activities of employers and the job search activities used by employees (aged 22-25) to fill openings in a nationally representative sample of jobs were examined from a survey of 4,078 employers. Major findings include the following: (1) particular methods are associated with high education level jobs (school placement, professional organizations, private employment agencies, and media ads), while other methods are associated with low education level jobs (use of friends and relatives, public employment services, and unions); (2) high school placement services are infrequently used by employers or graduates to fill or get low education level jobs, but are used occasionally in recruitment for female office jobs; (3) social networks to which whites are attached are more useful for access to higher level jobs than are the social networks to which blacks are attached. Also for blacks, social networks are less useful for finding private sector jobs and some higher paying jobs in desegregated environments; and (4) jobs filled by women make less use of union referrals and more use of direct applications and media ads. (KH)

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A Comparison of the Use of School Placement Services and Other Employer Recruitment Methods for Jobs Filled by Different Race, Sex, and Education Attainment Groups.

James M. McPartland
Russell L. Dawkins

Center for Social Organization of Schools
The Johns Hopkins University

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1. Introduction

Research on how employers recruit new workers is needed to develop and examine more realistic theories of education's role in career development processes and to develop practical ways to help students make a successful transition from school to work.

1.1 Recent theories of education and work

Until recently, theories of career development have emphasized the productivity aspects of schooling to coincide with a wage competition model of education and work. Under a wage competition framework, individuals seeking jobs would sell their skills in the labor market by negotiating the best wage for their talents with employers who had openings that required such skills. The role of schools in this model is to train the human capital that is required for different jobs. A great deal of research has been devoted to estimating the market value of education in terms of the increased earnings that is returned to additional education.

The need for schools to educate and train students in the skills required for different jobs remains of theoretical and practical interest. But the recent development of a job vacancy competition theory has added new questions about the role of schools in the economy. Under this theory, individuals do not negotiate wage rates with employers to create a

hiring occasion. Instead, vacancies occur at fixed wage levels due to current employees leaving their position or due to new jobs being created in firms. To find employment, an individual must learn of a vacancy, show up as an applicant and be chosen by the employer to fill the position. The issues that arise about the role of education under this formulation include questions at each stage of the employment process. At the recruitment stage, how do schools help individuals become candidates for certain vacancies? Do they provide formal placement services that employers can use to get applicants? Do they provide informal networks of information and contacts that individuals can use to learn about particular job openings? At the selection stage, how are credentials and information provided by schools used by employers to rank candidates? How are appropriate job skills learned at school measured by employers in the process of selecting new employees? At the job promotion stage, what school credentials continue to have meaning, and how do skills learned at school compare to skills learned on the job in determining who moves up in a firm?

This paper, will concentrate on the recruitment stage of the employment process. We will investigate the use and importance of school placement services and education credentials in employer recruitment and individual job search methods.

1.2 Some practical issues

Questions about the role of schools in the recruitment phase of employment also relate to practical issues of efficiency, effectiveness, and fairness. Can and do schools provide cost-effective formal mechanisms for matching applicants with vacancies? Can and do employers use information provided by schools about individuals employers to accurately rank and match candidates to new positions? Do all segments of the population, including racial and ethnic minorities, have equal access to and equal success in using the information and processes through which different job openings are filled?

2. Research Design

We will analyze a set of data that was assembled to study both employer and employee behaviors associated with the same job position in the same firm at major stages of the employment process. In this paper, we examine the job recruitment activities of the employers and the job search activities used by employees to fill openings in a nationally representative sample of jobs filled by young workers in the approximate age range of 22 to 25.

Our data are from a national survey of 4078 employers. The information provided by the survey is linked to jobs held in 1976 or 1979 by a sample of individual respondents to the National Longitudinal Survey of the High School Grad-

using Class of 1972 (NLS). The National Longitudinal Survey is a large-scale study conducted by the National Center for Education Statistics that collected base year data from over 20,000 high school seniors in 1972 and follow-up survey data from them at four subsequent times. The third and fourth NLS follow-up surveys were used to select a sample of employers through the information provided by NLS respondents on the name and location of their employer in October 1976 and October 1979. The sampling and survey procedures are described elsewhere (McPartland and Humphrey, 1984). Completed survey questionnaires were obtained in 1983 from approximately 75 percent of the sampled employers for a total achieved sample size of 4078.

Many questions on the employer survey pertained to a specific "sample job" title and duties described on the earlier individual NLS respondent questionnaires as the position filled by the individual in 1976 or 1979. By merging the employer surveys with the individual NLS surveys so as to match information in a single record in the same "sample job" in the same firm, we are able to investigate similar issues about the job from the perspective of employer and employee.

The data we have, in essence, describe how the employer views a job, how it is generally filled, and how it relates to the firm. At the same time, our data describe the actual

employee in that job, and the job search procedures that he/she used to get the job.

From the employee questionnaires, we will use information on the individuals' race, sex, and educational attainment, as well as the job search behaviors used to find the job. From the employer questionnaires, we will use information on the demographic characteristics of incumbents of the sample job (percent male, race distribution, and educational attainment distribution) as well as the job recruitment methods used most often by the employer to fill openings in the "sample job." We will examine jobs from both the private and public sectors. The private sector workers were defined as "an employee of a PRIVATE company, bank, business, school or individual working for wages, salary, or commissions," and public sector workers were defined as "a GOVERNMENT employee (Federal, State, county, or local institution or school)."

3. A Statistical Description of Job Recruitment and Job Search Behaviors.

The employee questionnaire listed twelve job search methods, and asked the individual "How did you find this job? (Circle as many as apply.)" The employer questionnaire listed eleven corresponding job recruitment methods, and asked the employer "How often do you use each of the following methods to find applicants from the outside when open-

ings occur in the SAMPLE JOB?" (Circle one response for each method: Always, Often, Sometimes, Seldom, Never.) The wording was the same or similar for the employer and employee methods, as follows:

Employer	Employee
1. Ask your current employees to recommend their friends and acquaintances.	1a. Relatives. 1b. Friends.
2. School or college placement services.	2. SAME
3. Professional periodicals or organizations.	3. SAME
4. Civil Service applications.	4. SAME
5. Public employment services.	5. SAME
6. Private employment agencies or services.	6. Private employment agency.
7. Community action or welfare groups.	7. SAME
8. Newspaper, TV, or radio ads.	8. SAME
9. Unsolicited applicants ("walk-in" applicants)	9. Direct application to employers.
10. Referrals from a union.	10. Registration with a union.
11. Other (please specify___)	11. SAME

3.1 Comparison of public and private sectors.

Table 1 presents the percent of employers and employees who reported using each method, with separate tabulations for private and public sector jobs. (Employer results are the percent who circled "always" or "often".)

Table 1 about here

We notice from Table 1 that (a) the public and private sectors differ in the most frequently used search and recruitment methods, and (b) there is good agreement between employer and employee in the relative rankings assigned to each method.

Besides the obvious sector diffference in use of Civil Service applications, which are exclusively the domain of public employment,* there are other sizeable differences between private and public employment in job recruitment and job search methods. Public sector jobs are more likely to be filled by the use of school placement services, community action or welfare groups, professional organizations, and public employment services. Private sector jobs are more likely to be filled by the use of friends or relatives of current employees, private employment agencies, media advertisements, and unions. In each of these comparisons, employer and employee sources agree on the direction of the sector difference, and at least one source demonstrates a statistically significant difference. The only method that does not show a statistically significant sector difference from either source is the method that ranks first in fre-

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* The small percent in the public sector reporting use of Civil Service applications are probably errors either in the sector classification of the employer or in the respondent's understanding of the question.

quency of use: direct application (or "walk-in" applicants).

Except for the obvious sector difference in Civil Service applications, it is not clear from these simple tabulations why public and private jobs differ on other methods. The reasons may derive from possible differences in the distribution of job skills and training required in each sector, or from organizational aspects of the enterprises such as size and formalization of operations, or from characteristics of the local labor markets in which the various activities are located. We will examine some of these factors in our further research with these data.

3.2 Consistency of employer and employee reports.

While the absolute frequencies reported for each method differ between employer and employee, the relative rank orderings of methods are in good agreement. In the Total columns, both employer and employee sources rank "Direct application (walk-in)" above all other methods; both rank "Friends" as the second in frequency of use, and "media ads" as third. "School placement services" are about in the middle of the rankings of both sources, ranked fourth by employees and fifth by employers. The least frequently used methods are union sources, community agencies or welfare groups, professional periodicals or organizations, Civil Service applications and private employment services. The

rank-order correlation coefficient between employer and employee values is .812, which is statistically significant. In the next sections of this paper, we will examine how the use of various methods is related to different types of jobs and job candidates within each sector.

Employers and employees differ in the absolute frequencies of use reported for each method. One reason is that the question asked employees to "circle as many as apply" but forced employers to assess each method individually. A sum of the percentages down the Total columns of Table 1 across all methods for each group indicates how many different methods were indicated by the average employer and employee. The average employer had indicated frequent use for about two methods (average = 2.27), while the average employee had only circled about one method (average = 1.21). Apparently many employees did not realize from the wording of the question that they could answer more than one method, or they did not conceive that more than one method could be used in finding a single job. Another possible methodological reason for employer - employee differences in response rates is the difference in the time of the questionnaires: employee data were collected in 1976 and 1979 while employer data were collected in 1983. There may also be response errors in the employer understanding of the "sample job" and in the employer or employee understanding of descriptions of specific methods.

Besides methodological sources of response rate differences, there are also possible substantive sources of employer-employee differences. Most specific jobs in a firm are filled by several different individuals over a period of time, especially if the establishment is large. Therefore, an employer response will usually be a generalization over the various individual cases who have been recruited to the job, while an employee response will constitute just one case that may or may not reflect the typical way in which the particular job is filled. Also, when multiple methods are used by employers and employees for the same position, each party may have different perceptions of which method was the most important in filling the job.

Table 2 is a inter-correlation matrix between employee job search methods and employer job recruitment methods used for the same job. If employer and employee agree on the methods used, then the largest positive value in any row or column of the matrix should be the value on the diagonal (which is the position in the matrix of variables where there is a match between employers and employee methods). The absolute value of the diagonal entries indicates the strength of the agreement between employer and employee methods.

The diagonal values in Table 2 (underlined) are usually the largest positive numbers in the relevant row and column

and all are statistically significant. But several of these values are below .10 in absolute value. This provides overall evidence of the validity of our measures of the methods used to link job candidates to job openings, and indicates which particular methods are measured with lower validity. The methods showing most agreement (in order of the size of the diagonal intercorrelation) are: Civil Service, private employment agency, union referral, media ads and school placement service. The methods with less agreement (in descending order of size) are: professional organizations, public employment services, community groups, friends, and direct application. The three most informal methods demonstrate the weakest agreement between employer and employee for the same job.

3.3 Frequency of use and importance

The method that employers use most frequently to find applicants for job openings may not be the same as the method that they view as most important for finding the person who is actually hired for the job. For example, one method may produce many candidates, but a different method may produce fewer but better candidates. To examine these possibilities, a subsample of 1945 employers were asked this question following their answers to questions about frequency of use: "Which THREE of the above methods have been most important for finding the persons who are actually

hired from the outside for the sample job? Which is most important? Which is second most important? Which is third most important?" Table 3 shows that the responses to these questions for private and public sector employers parallel the findings from Table 1. The rank order of methods and the public-private sector differences in Table 3 are essentially the same as previously shown in Table 1. Thus the frequency with which employers use each job recruitment method is strongly related to the importance that method has for locating the person who is actually hired.

3.4 Relationships between recruitment methods

Table 4 summarizes factor analyses of the 10 items on employer recruitment methods, examined separately in the private and public sectors. The table presents the varimax rotated facator matrix and the final communality estimates for each item. Three similar factors emerge in the private and public sectors. The minor differences between the sectors concern the amount of variance of specific variables accounted for the factors, and the single variable in each sector that loads equally on two factors.

Three factors are clearly defined in Table 4. The first factor is composed of four items: use of school placement services, professional periodicals or organizations, private employment agencies, and newspaper and media ads. Each of these methods requires more expense or effort on the part of

the employer than do other methods, and, as we shall see later in this paper, is usually associated with filling jobs requiring education beyond high school. This factor is presented in Table 4 as Factor 1 in the Private Sector and Factor 2 in the Public Sector.

The second factor is composed of three items: use of public employment services, community action or welfare groups, and union referrals. Each of these methods involves low cost and limited employer effort, and, as will be revealed in subsequent analyses, is primarily associated with filling jobs that require high school completion or less. (In Table 4, see Factor 2 in the Private Sector and Factor 1 in the Public Sector.) The third factor is composed of two items: use of current employees for recommendations, and unsolicited or "walk-in" applicants. These are the informal methods that use of word-of-mouth and social networks to bring job candidates to the employer.

One item, use of Civil Service applications, is not included in any factor, because it mainly distinguishes between the Private and Public sectors and has no clear relationships with other methods within either sector. Within the Public Sector, this item has the lowest communality, indicating that the factors account for the least variance in this measure. In the Private Sector, this item loads about equally on two factors and has a relatively low

communality, indicating unclear and unimportant meaning. As suggested earlier, variation on this item in the Private Sector is probably due to invalid measurement or classification.

Within the Private Sector, the item with the lowest communality is use of friends of employees, and use of walk-ins is the next lowest. Either these items are poorly associated with other methods of job recruitment used by employers, or (as suggested by Table 2, discussed earlier) not reliably measured by the employer reports used in these analyses.

In the Public Sector, the item on Civil Service is lowest in estimated communality, suggesting that it accompanies other methods of recruitment with equal frequency among public employers; and the use of private employment agencies has the least distinguishing factor loadings, suggesting that this method is infrequently used as an adjunct to other methods.

It was not possible to examine possible underlying factor structures for the individual job search items, since the average individual selected one method only as having been used to find the job.

In defining the three factors for employer recruitment methods, we followed the convention of selecting an eigenva-

lue of 1 or greater as the cut-off point in a principal components analysis that preceded the varimax rotation. As such, a bit less than 50 percent of the variance in the ten component items is accounted for by the three-factor solution in each sector (47.0 percent in the private sector, 49.4 percent in the public sector). We will continue to study the separate items in the rest of this paper, to capture as much as possible as the full range of complexity in job search and job recruitment methods.

4. How Job Recruitment and Job Search Methods are Related to Sex and Education Characteristics of Job and Applicant.

Do employers within each sector use different job recruitment methods depending upon the type of vacancy to be filled? For what types of jobs do private and public employers rely most on school placement services to locate candidates for job openings? How is the use of other recruitment methods related to the type of job opening and type of employer? In this section, we will analyze these issues for two dimensions of job openings: the education level of past occupants in the job at the establishment, and the sex composition of previous incumbents in the particular job.

We will conduct parallel analyses from the perspective of job recruitment methods used by employers to fill jobs with different sex composition and educational distributions, and

from the perspective of job search methods used by individuals from different sex and educational attainment subgroups. Our analyses will be conducted separately within the private and public employment sectors.

4.1 Measures and methods

Two multiple regression analyses of employer practices to fill different jobs are summarized in Table 5. For these analyses, the job is the unit of analysis, and the dependent variable is either (a) the percent male of current employees in the job, or (b) the percent of current job occupants whose highest educational attainment did not include any college study (that is, those who graduated from high school and those who did not finish high school.)

The first regression analysis estimates an equation to predict the percent male in the job by one single employer recruitment method (such as use of "friends of employees"), controlling for the percent with no college education. Each employer recruitment method is measured on a five-point scale with higher values equalling more frequent use. For example, the first 3 values in the top row of Table 5 (-.0094, -.029, 2.6) are the regression coefficients and test statistic when the recruitment method "friends of employees" is used to predict "percent male in the job", and "percent with no college in the job" is included as a control variable in the regression equation.

A second regression analysis estimates an equation to predict "the percent with no college in the job" by one method of employer recruitment, controlling for "the percent male in the job." For example, the values in columns 4, 5 and 6 of the first row of Table 5 (.0012, .114, 0.0) are the regression coefficients and test statistic when the recruitment method "friends of employees" is used to predict "the percent with no college in the job," with "percent male" included as a control. Thus each set of three values (b, B, F) in Table 5 is from a separate regression analysis.

Multiple regression analyses of individual job search behaviors are reported in Table 6. In this case, the unit of analysis is the individual job applicant, and the dependent variable is the job search method used to find the job (scored as a 1/0 dummy variable). Two independent variables are used in each analysis: the individuals' sex (scored Male = 1, Female = 0) and the individuals' educational attainment (scored High School = 1, Some College = 2, College Degree = 3). Thus each row in Table 6 is from a sepa-

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* An alternative analysis would switch the roles of dependent and independent variables in the multiple regression analyses, using the job recruitment method as the dependent variable and "percent male in the job" and "percent no college in the job" as independent variables. The values for B and F shown in Table 5 would be exactly the same under the alternative analysis, only the unstandardized values would be different. The substantive interpretations provided for Table 5 would not change under the alternative approach. We chose the order of variables used for the Table 5 analyses because we believed it to more correctly follow the actual causal process.

rate multiple regression analysis.

4.2 Results on education level of job and applicant in private sector.

The size and consistency of results in Table 5 and Table 6 show that education level of the job and the education of the job applicant are strongly related to the job recruitment and job search methods used.

Table 5 and Table 6 about here

The four methods most strongly associated with jobs that require advanced education are school placement services, professional periodicals and organizations, private employment agencies, and media ads. The results for these methods are similar in Table 4 and Table 5: the same methods have the four largest statistically significant values in the same direction for increasing education levels. This similarity of results indicates that employers and employees agree that these four methods are the most used to recruit for or search for jobs that require advance education.

The results for methods associated with filling lower education jobs are not so clear: the four largest (positive) values in Table 5 are not statistically significant in Table 6. Employers (Table 5) report that they use four methods are used more often when jobs are filled by workers

with low education levels: public employment services, community action or welfare groups, direct application (walk-in) and union regerrals. Employees (Table 6) report that individuals with lower levels of education are more likely to use friends and especially relatives to find jobs.

Although none of the statistically significant values in one Table statistically significant in the other Table, each of the six significant values found in Tables 5 and 6 have substantive meaning. We previously observed (Table 2) that the items with the poorest employer-employee intercorrelations are medias ads, friends and relatives, community groups, and public employment services, which are the same items at issue in Tables 5 and 6 (along with unions). Thus, it should be no surprise that relationships in Tables 5 and 6 do not match in strength. Also, an employee may often be more aware than the employer when informal social networks (friends and relatives) are used to match job seekers to job vacancies, so that the results with the employee measure may have more meaning in our studies. On the other hand, the employer data is likely to be more valid on most other methods, because the question formats required a direct rating of each method by the employer but not by the employee.

Taking the employee results as more meaningful for the "friends" or "relatives" measure and the employer results as more meaningful on the other items in question, we conclude

from Tables 5 and 6 that the five methods used especially to fill jobs with lower educational requirements are: (1) employees' friends or relatives, (2) public employment services, (3) community action or welfare groups, (4) direction application (walk-in), and (5) unions.

4.3 Results on sex composition of job and sex of applicant in private sector

The pattern of results in Tables 5 and Table 6 is not as strong or consistent for sex of job as for education level of job. With one exception, job recruitment and job search methods are more strongly associated with education level than with sex, as seen from a comparison of columns 2 and 5 and of columns 3 and 6 for each row. The exception is the use of unions which is used more for male jobs in the private sector.

This suggests the need to analyze sex differences within fixed categories of jobs according to their education level. Before separately examining each education subcategory, it is useful to note the results for sex composition of job in Table 5 and sex of job applicant in Table 6 when education level is held constant statistically.

Employer reports (Table 5), indicate that unions are used more often to fill mostly male jobs, while school placement services, media ads and direct application (walk-ins) are

methods used more often to fill mostly female jobs. Employee reports (Table 6) agree strongly with the finding of more use of unions by males and the greater use of ads by females. However, employee reports also suggest that males use friends and relatives more to find jobs, and that females use private employment services more to find jobs.

Table 7 shows the relationship between each employer recruitment method and percent male in the job for different types of jobs categorized by the educational level of the current job occupants. The following results are of interest:

Table 7 about here

1. When school placement services are used for high school jobs, the method is more often used to fill positions held by females, and these jobs are often clerical and office work.* For jobs at higher educational levels where school (college) placement services are used most often (Table 5), there is no tendency to use the method more for one sex than another.

*We examined the job titles of female-high school jobs filled by school placement services compared to other methods.

2. When private employment services are used for high school jobs, the method is also more often used to fill positions held by females (frequently for office and clerical work). For higher level jobs where private services are used most often (Table 5), there are no significant differences by sex composition of the job.

3. Media ads are used more to fill jobs held by women at each separate educational level of work. Media ads are used more for higher level jobs (Table 5), and the tendency to use this method to fill women's jobs was also greater for positions at the higher educational levels (comparison of b's across row 6 of Table 7).

4. Direct application (walk-ins) is more often used to fill jobs usually held by women at lower and intermediate educational levels. This method is not as frequently used for jobs usually held by college graduates (Table 5) and there are no significant sex differences in the method at this level.

5. The only method with a significant sex difference that favors jobs usually held by males is union referrals. This method applies mainly to lower level jobs (Table 5) where the sex difference is greatest.

4.4 Public sector results

Public and private employers differ in the frequency with which they use particular recruitment methods, but when a given method is used it often is directed toward the same educational level and sex type of job regardless of the sector. Tables 5 and 6 show the similarities.

Like private firms, public employers more often use school placement services, professional organizations and media ads to recruit for jobs filled by those with advanced education. For lower education jobs, public employers are more likely to use public employment services, and community action or welfare groups, following the same tendencies of private employers. On the other hand, use of employees' friends, private employment agencies, walk-ins and union referrals are not related to the education level of public sector jobs, where these methods are used significantly less frequently than in the private sector where they are related to job level. Civil Service Applications, used exclusively in the public sector, tend to be used more for lower level positions.

4.5 Cannonical correlation analyses

Cannonical correlation can be used when there are multiple independent variables and multiple dependent variables to estimate an equation that is the best linear combination of the independent variables that has the highest multiple correlation with the best linear combination of the depen-

dent variables. The coefficients for variables on each side of the equation can be interpreted as estimates of the relative importance and direction of influence of each measure, in the same manner that standardized regression coefficients are interpreted in ordinary multiple regression analyses. A second cannonical correlation analysis can be performed following the estimation of the initial equation that is based on the set of residuals from the first, to estimate the linear combination of variables that best accounts for the remaining variation (Cooley and Lohner, 1971; Thompson, 1984; Warwick, 1975.

Our case, with ten job recruitment techniques being used to predict the percent male in the job and the percent with no college in the job, is well suited to cannonical correlation analyses. We will report separate cannonical analyses of both employer recruitment methods and employee search methods in the private and public sectors. Table 8 summarizes six cannonical correlation analyses for different methods and sectors.

Each cannonical analysis shown in Table 8 reports the cannonical weights for each variable for the first and second cannonical equation, together with the eigenvalue that gives the percent of variance accounted for by the best fitting equation. For example, the first column of values in

the top panel of Table 8 shows the weights associated with each of ten employer recruitment methodsthat best predict a combination of education level and sex composition of job. This first equation (CANVI) is mainly predicting education level of job (weight = .967) rather than sex composition of job (weight = .183) and shows that jobs held by a high percent with no college are mainly filled by public employment service (.429) and unions (.196) rather than by the methods with large negative weights such as school placement services (-.548) professional organizations (-.374) private employment services (-.194) or media ads (-.253). This equation explains 20.7 percent of the variance (eigenvalue = .207). The adjacent column of values in Table 8 (CANV2) gives the second cannonical equation, which explains about 4 percent of the remaining variance (eigenvalue =.041) with an equation primarily concerned with high percent male jobs (weight = .987). Other portions of Table 8 report separate cannonical analyses in the same format.

Table 8 about here

The following conclusions seem warranted from Table 8:

1. Reports of employer methods are much superior to employee methods in accounting for variance in job composition. The eigenvalues indicate that the first cannonical equation estimated for employer methods accounts for over 20

percent of the variance, while the use of reports of employee search methods accounts for about six percent.

2. There is strength and consistency to results about how methods are related to the education level of jobs. In both sectors and for both employer and employee reports, particular methods are associated with high education level jobs (school placement, professional organizations, private employment agencies, and media ads) while other methods are associated with lower education level jobs (public employment services and unions). In addition, according to employee results, friends and relatives seem to be used especially for lower level jobs. The pattern for direct applications (walk-ins) is small in size and inconsistent in direction.

3. Most of the results for sex composition of job are inconsistent across sector and methods and account for a small amount of the variance explained by recruitment or search methods. Table 9 reports a partitioning of variance explained by employer methods in sex composition and education level composition that show the minor role of sex composition in the first prediction equation. The unique portion of variance for sex is the difference between the squared cannonical correlation for the total equation (eigenvalue = .20682) and the correlation from a conventional multiple regression of ten employer recruitment meth-

ods to predict percent with no college in the job (.20682 -.20130 = .00552). The unique portion for education level is the difference between the cannonical correlation and the R2 from a conventional multiple correlation of percent male in the job on ten employer recruitment methods (.20682 -.05316 = .15366). The joint portion is the difference between the squared cannonical correlation and the sum of the unique portions (.20682 - (.00552 + .15366) = .04764. Table 9 shows that most of the variance in job composition explained by ten employer recruitment methods is uniquely assigned to education composition (74.3 percent in the private sector, and 83.3 percent in the public sector). Almost none is uniquely assigned to sex composition (2.7 percent in private sector and 0.1 percent in public sector). Some of the explained variance cannot be empirically separated into components for sex composition or education level of job (joint portion equals 23.0 percent in the private sector and 16.6 percent in the public).

Table 9 about here

Besides this minor role of sex composition in the first cannonical equation, Table 8 shows the weak ability of the second cannonical equations to account for the remaining variance in job sex composition with job recruitment methods. The very small eigenvalues range from .041 to .011.

4. The weights that show the most consistent strength and direction between method and percent male in the job apply to the use of unions (positive).

4.6 Summary of sector, sex and education level differences

A convenient method to summarize our results so far is to pick one subgroup as a base for all comparisons. Figure 1 shows the relative frequency that different employer recruitment methods are used to fill private sector male jobs, depending upon whether the job is usually held by high school graduates or college graduates. The values graphed in Figure 1 are reported in Table 10, together with adjustment factors to estimate the use of each method in the public sector and for jobs usually held by females. The adjustment factor is an estimate of the amount to be added or subtracted to the percentages shown for male private sector jobs to obtain the value for public sector and/or female jobs. These adjustment factors are the unstandardized regression coefficients from a multiple regression where the dependent variable is the percent of employers using each method and the independent variables are job sector (Public = 1, Private = 0)and job sex (jobs with 50 percent or more female = 1, otherwise = 0), with percent in the job with no college also included as an independent variable.

Figure 1 and Table 10 about here

Figure 1 illustrates both the comparison between education levels and the relative importance within each education level of each employer recruitment method. Thus we can see that while some methods are used more for higher level jobs (school placement, professional organizations, private employment agencies and media ads) and some are used more for lower level jobs (public employment services, community groups, walk-ins and unions), the most frequently used method at each level is "walk-ins," and "friends of employees" is near the top in relative use.

Table 10 shows that when we examine public sector jobs, there would be major adjustments for less frequent use of friends and walk-ins and more frequent use of civil service and community groups, with minor adjustments for use of other methods in the public sector. The adjustment factors shown for female jobs in Table 10 are not as large as for sector and do not indicate how sex differences may vary for separate education levels. Nevertheless, we can observe that the three largest average adjustment factors for female jobs include a greater use of walk-ins and media ads and a lesser use of unions. Our studies of more detailed tables in the previous section suggested that the sex differences for walk-ins and unions were mainly for lower level jobs and the sex differences for media ad use were greater for higher level jobs.

The method of school placement services is of special concern for our interest in the role of education in career processes. We learned that use of school placement shows the largest difference between low education level jobs and high education level jobs, with school placement services assisting in recruitment mainly at the college level. For lower education level jobs, high school placement services are used occasionally in recruiting for female office jobs.

5. Characteristics of Firms and Labor Markets Related to Employer Recruitment Methods

We have reported how employer recruitment methods differ on the average for private or public employers. We also examined how other selected features of the firm and labor market are related to the frequency with which different employer recruitment methods are used for jobs in different categories of education level and sex composition. These features are size of labor market, size of firm, industry of firm, and priority worker traits for the job.

5.1 Size of establishment and labor market

Table 11 reports the coefficients for firm size and city size as independent variables in multiple regression analyses where each employer recruitment method is a dependent variable (scored 1 to 5 on a scale corresponding to the range of use from "never" to "always"), with "percent male in the job" and "percent with no college in the job" as additional independent variables in the equations. The size of the firm* is defined by the employer's answer to the question: "Overall, about how many persons are currently employed full-time and part-time at this location?" City size is measured by individual respondents' answers to the

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* The paragraph preceding this question made it clear that the size estimate should apply to a single location for those organizations that have multiple locations. "Establishment" is the phrase often used to signify this unit of analysis.

question "Which of the following best describes the location of the place where you live?" with categories ranging from "In a small city or town of fewer than 50,000 people" to "In a very large city over 500,000 people."**

Table 11 shows that several employer recruitment methods vary with firm size and/or city size. In the private sector, city size has its largest effects on the use of private employment agencies, community action or welfare groups and media ads: the frequency of each is greater in larger cities. In the private sector, smaller statistically significant effects of city size include positive effects on the use of friends of employees, professional organizations and union referrals, and negative effects on the use of public employment services. In the public sector, city size has only one large effect: civil service applications are used more in larger cities. A smaller positive statistically significant effect of city size in the public sector is on the use of community action or welfare groups.

Table 11 about here

The size of firm has large effects on many job recruitment methods in both sectors. In the private sector, firm size is significantly related in one direction or another to

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** Other measures of city urbanicity based on Census data, such as whether the location is an SMSA or the percent urban in the county, show the same results as Table 11.

all methods except use of professional organizations, civil service applications, and media ads. Larger private sector establishments more often use community action or welfare groups, public employment services, unsolicited applicants, school placement services and union referrals. Larger private sector establishments less often use friends (as reported by the employer) and private employment agencies. The effects of establishment size are much the same in the public sector. Establishment size increases the use of unsolicited applicants, community action or welfare groups, public employment services, union referrals and civil service applications. A smaller negative effect of establishment size is observed for use of employee friends.

5.2 Industry differences

Using census codes for the industry within which each sample establishment is located, we constructed dichotomous variables for eight broad industrial categories. Table 12 displays how our sample is distributed across the eight industrial categories within the private and public sectors, and names the most frequent industry codes that appear in our sample for each category. Our sample of public sector jobs is concentrated in the categories of Service, Public administration, and Communications (postal service), with all other industrial categories having less than 3 percent of our public sector sample and less than half the percent

for the same category found for private sector jobs. The industrial categories with most jobs from our private sector sample are Services, Manufacturing, and Trade (wholesale and retail). Other industrial categories that are mainly in the private sector are Finance, insurance, and real estate; Transportation, communications and utilities; Construction, and Agriculture and mining.

Table 12 about here

Table 13 summarizes the relationship of industry with employer job recruitment methods within private and public sectors. Each recruitment method is used as a dependent variable in a regression analysis and the independent variables are one industry dichtomous variable, size of establishment, city size, percent with no college in the job and percent male in the job. Each set of three coefficients (b, B, F) in Table 13 is from a separate regression equation using a particular combination of recruitment method and industry category in the analysis, along with the remaining four control variables.

Table 13 about here

We will describe the major results of Table 13 in two ways. First, we will discuss each separate industrial category and examine the recruitment methods that are used more than in other sectors and the methods that are used less by comparing B and F statistics down the columns of each industrial category. Second, we will examine each recruitment method separately and highlight the industrial categories where it is used especially frequently and the categories where it is used least, by comparing b and F statistics across the rows of Table 13. We will focus on the large statistically significant values in Table 13.

Beginning with the Agriculture and mining category in the private sector, no method stands out for greater use, but several methods (especially media ads) are used less to recruit new workers than in other industries. The Construction industry is where union referrals stand out as the characteristic recruitment method, with all other methods being used less frequently than in other industries. Private manufacturing industries use public employment services and community groups more frequently, and use of friends, school placement, professional organizations and walk-ins less frequently. Private Transportation, communications and utilities use community groups and unions somewhat more; media ads less. Private wholesale and retail trade industries use much more walk-ins and much less public employment services, unions and professional organizations. Three

methods are more frequently used in private Finance, insurance and real estate industries: private employment agencies, friends of employees, and community action groups. The private Service industries, including schools and hospitals, make especially heavy use of professional organizations or periodicals, media ads and school or college placement services in their recruitment, and less use of public employment services and community groups. Industries classified as Public administration are not a significant part of our private sector sample.

In the public sector, we discuss the three industrial categories where we have our largest sample. In the Transportation, communication and utilities category (including the U.S. Postal Service), compared to other public sector industries, somewhat less use is made of walk-ins or public employment services to recruit new workers.

In the Service and the Public administration categories of public sector industries, we see opposite patterns in the use of methods. For services, Civil Service applications and public employment services are used much less than by other public employers, while unsolicitied applicants are used somewhat more. A closer examination of the industrial codes underlying this comparison shows that methods used to recruit public school teachers largely accounts for this contrast among public employers.

On the other hand, the Public administration category of the pubic sector shows a much greater emphasis on using civil service applications, somewhat greater emphasis on using public employment services and somewhat less use of unsolicited applicants, compared to other public employers. Government officials and workers in this category are the positions that primarily account for these results.

We now go back over the results of Table 13 to highlight the industrial categories where each recruitment particularly stands out. In the private sector:

1. Friends of employees are used more frequently in the Finance, insurance and real estate catgegory (including banking), and used less in manufacturing.

2. School placement services are used more in Service industries and in the Finance, insurance and real estate category, and used less in construction and manufacturing industries.

3. Professional organizations and periodicals are used more frequently in Service industries and less in the wholesale and retail trade category.

4. Public employment services are more often used in Manufacturing, and less often in Trade and Service categories.

5. Private employment agencies stand out in the Finance, insurance and real estate category, and less often in Services and Trade industries.

6. Community action groups are used more to recruit new workers in the Finance, Manufacturing, and Transportation, communication and utilities categories, and less in Services and Construction industries.

7. Media ads are more frequently used to recruit in Service industries and less often in Transportation, communication and utilities.

8. Use of unsolicited (walk-in) applicants is much more typical in retail and wholesale trade industries and somewhat less typical in the Construction, Manufacturing and Transportation categories.

9. Unions stand out in Construction and Transportation and are less common to recruit workers in the Trade and Finance categories.

In the public sector, constrasts in the use of recruitment methods are mainly between the Service and Public administration categories, where Civil Service and public employment services characterize the latter and unsolicited applicants characterize the former.

5.3 Specific job traits

Our analyses have focused on two aspects of jobs (education level and sex composition) to study the use of different employer recruitment methods. But it is likely that other aspects of the job, such as the need for particular worker competencies, may be related to employer methods after the education level and sex composition of the job are taken into account. We will use cannonical correlation analyses of 17 job traits that were rated by employers for each sample job in our survey to investigate this issue.

Each employer was asked to rate each of 17 job traits on a four point scale from "extremely important" to "not at all important," with the following survey question.

When you are looking for new workers to fill the SAMPLE job, how important is it that they....

...work well at a set routine schedule; that is, are METHODICAL?

...are able to work well with their hands; that is have MANUAL DEXTERITY?

...are able to learn new things quickly; that is, are QUICK LEARNERS?

...are able to read materials about as difficult as the daily newspaper; that is, have BASIC ADULT LITERACY?

...are able to read complex written materials; that is, are ADVANCED READERS?

...are able to accurately add, subtract, multiply and divide; that is, can PERFORM BASIC ARITHMETIC?

...are able to handle complex numerical calculations; that is, are EXCELLENT AT MATH?

...have prior knowledge of how to perform the specific duties of this job; that is, have SPECIALIZED KNOWLEDGE?

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...are able to make a good impression outside the organization with clients or customers; that is, are good at CLIENT RELATIONS?

...are likely to stay with the organization for a long time; that is, will have PERMANENCE?

...are likely to move up within the organization to higher level jobs; that is, have GROWTH POTENTIAL?

...are able to get along well with people; that is, are GOOD TEAM MEMBERS?

...will easily accept supervision; that is, have the PROPER ATTITUDES about work and supervisors?

...can be counted on to come to work regularly and on time; that is, are DEPENDABLE?

...can deal with new complex situations; that is, have GOOD JUDGMENT?

...can provide direction and leadership; that is, CAN SUPERVISE?

...have OTHER qualifications? (PLEASE SPECIFY).

Tables 14 and 15 present the results of cannonical correlation analyses using the 17 job trait measures. We will investigate how the percent of variance accounted for by the ten employer recruitment methods changes as we use different combinations of job traits and job composition measures.

Tables 14 and 15 about here

The first column of Table 14 gives results for the private sector. Row 1 shows that when ten recruitment methods are used in a cannonical analysis to predict the percent with no college in the job and the percent male in the job the percent of variance accounted for by the cannovical

equation equals .20682. Row 2 shows that when the measure of the single job trait of "Methodical" is added to percent no college and percent male in a cannonical analyses with the same ten recruitment methods as predictor variables, the percent of variance accounted for by the cannonical equation increases slightly to .21083. Each of the remaining rows 2 through 18 show the amount of variance accounted for by the best fitting cannonical equation where a different mesure of one job trait is added to percent no college and percent male in the job in a prediction equation with the same ten employer recruitment methods.

The same analyses are shown for the public sector in the second column of Table 14. We also present parallel analyses in Table 15 where "percent in the job with a college degree" replaces "percent in the job with no college" for every estimated equation. Although these measures are highly related in a negative direction, we repeat the analyses in Table 15 to check whether the pattern of results changes when we distinquish the educationally most demanding jobs from all others rather than distinguishing the least demanding jobs from all others.

Rows 19 through 23 of Tables 14 and 15 present estimates of the partitioning of variance explained by recruitment methods among job composition components and job traits. (These analyses use the same type of calculations described

earlier for Table 9). Row 19 gives the total variance accounted for by ten methods predicting both job composition measures and all 17 job trait measures. Row 20 presents the variance accounted for by predicting only the 17 job traits. Rows 21, 22 and 23 present the unique and joint proportions of variance explained.

We draw the following conclusion from Tables 14 and 15:

1. Job composition measures (education level and sex composition) and job trait measures have some common relationship to the kinds of recruitment methods used by employers to fill job vacancies, but some job traits reveal additional impact on the recruitment methods.

The 17 job traits are more strongly related than the two job composition measures to differences in job recruitment methods (row 20 versus row 1). But the two sets of variables overlap considerably in their ability to account for variations in recruitment methods, as seen from the bottom three lines. We estimate that the joint contribution of job composition and job traits in accounting for job recruitment difference is about half of the total variance explained (line 23). The unique contribution of job composition measures in the equations is estimated to be between 12 and 15 percent (line 22), while the unique contribution of job traits is estimated to be between 30 and 40 percent. In other words, when we characterize jobs only by their educa-

tion and sex composition, we can account for between 60 and 70 percent of the variance in job recruitment methods, compared to the predictive power when 17 job traits are also available with eduaction and sex composition to measure job differences.

2. The specific job traits which add most to accounting for recruitment methods beyond what is picked up by job composition are client relation s, advanced reading, and good judgment in the private sector; and supervisory skills, good judgment, and basic arithmetic in the public sector.

An inspection of each of the columns of Table 14 and 15 reveals which individual job traits add most explanatory power to the equation. We indicate the rank order among the 17 traits in parentheses on each line.

3. Our understanding of the particular recruitment methods that are used more often to target each specific trait may be helped by a comparison of the cannonical weights associated with each variable for the first equation estimated for ten methods with two job composition mesures (equation associated with line 1) versus the weights for equations where one job trait is added to the equation (lines 2 through 18). In addition, the inspection of weights for variables in a follow-up cannonical equation on residual variation may be helpful, if the weight for the job trait measure stands out from the job composition measures

in the particular equation. These analyses will be the subject of further research.

6. How Job Recruitment and Job Search Methods are Related to Race and Ethnic Characteristics of Job and Applicant.

We can also investigate whether the methods used to match job openings with job applicants differ for racial or ethnic minorities, when other characteristics of the job and applicant are taken into account. Do blacks and Hispanics have equal access to the information about job vacancies and have equal opportunities to become candidates for the positions for which they otherwise qualify?

We address this question with analyses that use race of job and job applicant to parallel our earlier investigations of the determinants of sex composition of jobs. First, we examine relationships in the public and private sectors controlling for sex and education levels. Table 16 summarizes multiple regression analyses to estimate how each employer recruitment method is related to percent black or percent Hispanic in the job, controlling for percent male in the job, percent with no college in the job and sector. Tables 17 and 18 report cannonical correlational results concerning employer recruitment methods. Table 19 presents results from multiple regression analyses of employee job search methods.

Second, we will look at relationships within fixed categories of the education level of the job. Tables 20 and 21 present these results.

6.1 Race and ethnic effects, controlling for sex and education level

The following conclusions are drawn from Tables 16, 17, and 18:

1. In the private sector, jobs with higher percent black composition are strongly related to the use of community action or welfare groups as an employer recruitment method. Table 16 shows this finding in in row 8 for the Private Sector. This is substantiated in Table 17 where the third cannonical equation (CANV3) associated mostly with job race in the Private sector (row 13) has one recruitment method (row 7) that is much larger than any others in the same column and row: use of Community groups. This cannonical correlation result indicates that the use of community groups is a recruitment method primarily related to the race composition of the job.

The other method in the private sector with an especially strong association with job race composition is use of media ads, which is negatively related to jobs with larger black concentrations.

2. In the public sector, no method really stands out as one producing large independent impacts on the race composition of jobs. There is some indication in Table 16 of a negative impact of use of media ads or professional organizations on producing higher black representation in jobs. But, in Table 17, no cannonical equation associated with race of job passes conventional levels of statistical significance.

3. The Hispanic composition of jobs in the private sector is not clearly related to recruitment methods that are independent of other job composition factors. Table 18, which reports three stages of cannonical analyses in the Private Sector, produces no equation with a high weight for Percent Hispanic in the Job (row 13). The only statistically significant value in TAble 16 associated in the Private Sector with Hispanic composition is the netagive effect of use of media ads (row 18).

4. In the public sector, the use of community action or welfare groups has a clear positive relationship to Percent Hispanic in the Job. This can be observed in Table 16 for the Public Sector (row 17) and in Table 18 for the third equation in the Public Sector (CANV3, row 7). There is also some suggestion from the cannonical analyses in Table 18 that using friends of employees to fill Public jobs has a positive impact on Percent Hispanic, and using Civil Service

applications has a negative impact, but these suggestions are not substantiated in Table 16 results.

5. Analyses that use employee search methods have few silmilarities to the results just reported from analyses of employer recruitment methods. Table 19 shows the results from regressions using employee data. For example, in contrast to earlier Tables, Table 19 suggests that blacks and Hispanics use public employment services more than whites to obtain private sector jobs.

As we concluded earlier, the employee reports may be especially useful for learning about informal methods of finding jobs, such as use of friends and relatives or in direct applications (walk-ins). Table 19 does not indicate race and ethnic differences in these factors, with the possible exception of less frequent use by blacks of direct application in the private sector.

6.2 Race and ethnic effects within education levels

As was true with our study of sex differences, some interesting race and ethnic patterns emerge when we examine jobs within fixed categories of education level. Table 20 presents results for percent black in the job and Table 21 presents results for percent Hispanic in the job.

1. With regard to methods associated with higher black compositions in private sector jobs, Table 20 shows that use

of community groups (positive) and media ads (negative) have impacts at each education level. The strongest method, use of community groups may even grow in importance for producing blacks in jobs as the education level of the position increases (comparison of b across row 7).

Table 20 also suggests two methods that are only important for college degree private sector jobs in relation to percent black in the position. First, use of friends of employees as a job recruitment method is negatively related to percent black in this category, suggesting that the informal networks in operation are mainly useful to whites at this level. Second, when union referrals are used to recruit workers for college degree jobs (which is not often), they tend to produce higher black compositions.

2. In the public sector, there is no method that consistently produces a significantly higher black percentage for all eduction level categories of jobs.

In the public sector at the college degree level only, we note that use of friends of employees is negatively related to percent black in the job, just as was true in the private sector at this level. Informal social networks apparently help whites get college level jobs more than blacks. That is, the social networks to which white are attached are more useful for access to higher level jobs than the social networks to which blacks are attached. We will further examine

the issue of the "quality" of the social networks used by blacks to obtain jobs in the next section of this paper. We will examine the type of job obtained by blacks who use segregated black social networks versus blacks who use desegregated social networks that include white friends to find jobs.

3. In terms of private sector methods that produce higher Hispanic concentrations in jobs, no single method has a consistent impact across all education levels of jobs (Table 21).

4. In the public sector, the use of community groups may produce a stronger relationship with Percent Hispanic as the education level of the job increases (comparison of values across row 17 of Table 21). It looks as if use of community groups is an especially useful method for Hispanics to fill higher level jobs. However, the impact of community groups is not very strong for Hispanics at any given education level of jobs.

Use of Civil Service applications in the public sector appears to have a negative impact in producing high Hispanic concentrations in high school level jobs, while the reverse may be true for college level jobs (row 14, Table 21).

6.3 A closer look at black use of social networks.

In our discussion of Table 20, we noted some interesting interactions of racial differences in the use of informal social networks and the educational level of the job: college level jobs that are filled by the use of informal networks are less likely to have black workers, indicating that college level jobs that have fewer black incumbents tend to use white social networks for recruiting applicants, and these networks are not as accessible to black job seeker. For lower level jobs, no significant relationship was observed in Table 20 between an employer's use of social networks to fill the job and percent black in the job. We will now look closer at race effects from the use of social networks, by examining the questionnaire item from the individual survey concerning the use of friends to find a job.

Table 22 shows the percent of workers who reported using friends or relatives to find their job, tabulated by race, sex and education level of the worker and sector of the job. There is a clear ordering of percentages according to education level of the worker in the private sector: social networks are used more by workers at lower levels of education than at higher levels. There is also an interesting pattern of race differences: for the most part whites use social networks more frequently than blacks to find jobs in the private sector, but blacks use social networks more than

whites to find public sector jobs. The race differences in the private sector favoring white use of social networks are especially pronounced for males. The race differences favoring blacks use of friends or relatives in the public sector are largest at the college degree level. (The reversal in the race pattern in the public sector is probably due to some bias of reports in the category of black males with some college that fails to fit the expected education trend or other reasonable patterns of percentages).

The race contrasts in Table 22 can be interpreted like the patterns noted in Table 20: where jobs are more dominated by whites, the social networks used in recruitment will be white, so that blacks will be more deprived of access to the useful information and contacts such networks provide. In the case of Table 22, private jobs have a higher percentage of white workers creating more white channels of informal job search connections in the private sector and more black networks in the public sector. This contributes to the pattern where social networks are more useful to whites than blacks for finding private sector jobs, while the opposite race pattern is usually observed in the public sector.

In Table 23, we focus entirely on black workers who are high school graduates (with no college) to compare the kinds of jobs obtained by using social networks of different

racial compositions. Although we have no direct information on whether the friendship networks used by blacks to find jobs are segregated (mostly black friends) or desegregated (includes white friends) we may be able to get at this distinction indirectly. In Table 23, we use combinations of categories of whether the black worker used friends to find the job (column 1) and whether the black worker graduated from a segregated or desegregated high school (column 2) to infer the type of informal friendship networks accessible to each worker and used by each worker. In column 3 of Table 23 we infer different types of social networks from the variable cross-classifications in column 1 and column 2, to study the kinds of jobs blacks obtain in each case. Table 23 presents these measures of the type of job: the average percent white of coworkers in the same job (column 4), the average percent white of co-workers in the same firm (column 5), the average hourly wage now paid for the job as reported by the employer in 1983 (column 6), and the average hourly wage paid earlier in thejob as reported by the entry-level employee in 1976 or 1979. There are clear differences of job type shown in Table 23 depending on whether the black worker had access to black or white friendship networks and used them to find the job.

Looking first at the black males, we find that those who used desegregated social networks (row 4) get the highest paying positions in firms and jobs with the highest percent

of white co-workers. Those black male high school graduates who used segregated black social networks (row 3) on the average get the lowest paying positions in firms and jobs with the lowest percentage of white co-workers. Those black males who did not use social networks to find their job (rows 1 and 2), fall in between the other groups in pay level and desegregation of co-workers. Put another way, the value of social networks for finding good jobs by blacks depends upon the kind of social networks being used: black friendship networks lead to poorer paying more segregated jobs (it is better to use other job search techniques) and white friendship networks lead to better paying less segregated work.

The bottom half of Table 23 (rows 5 through 8) report the results for female black high school graduates in private sector jobs. There are no large consistent differences in average job pay that depend upon use of social networks for black females. But the same patterns for racial composition of co-workers that we observed for black males are also true for black females. Those who use desegregated networks have the highest percent white co-workers, those who use segregated networks have the lowest percent white co-workers, and those who do not use social networks fall in between.

The wage pattern interpretation is clearest from the employer data (column 6). The highest paying job on the average is consistently found to come from use of desegregated networks (columns 6 and 7), but the lowest paying job interpretation depends upon the measure being used.

6.4 Summary and discussion of race and ethnic effects

The most important race and ethnic differences in methods through which individuals become candidates for job openings may be in the quality of the method rather than in the type of method used in the job recruitment and job search processes.

We found few overall race and ethnic differences in type of method that were not primarily due to contrasts in educational level of different jobs and social groups. Except for the use of community groups in the private sector as a method that produces jobs with higher black representations, and the use of community groups in the public sector as a method that produces jobs with higher Hispanic concentrations, our analyses do not indicate large consistent race or ethnic differences in access to jobs through alternative recruitment methods. Although there were no overall large race differences in the use of informal networks of friends, we did find race differences in how such informal social networks were use to match workers with particular job vacancies.

Use of friends of employees to recruit job applicants was negatively related to black representation in college level jobs in both the public and private sectors. This finding suggests that the quality of information and contacts within particular methods that may be more important than the sim-

ple use of a method. In this case, the social networks used by whites appear to carry more useful information and contacts for access to college level jobs than do the social networks used by most blacks at this education level. Furthermore, we observed opposite racial patterns in private and public sectors in the level of use of social networks to find jobs. Whites used friends and relatives more frequently than blacks to find private sector jobs, while blacks used these methods more frequently than whites in the public sector. We interpreted this difference to be the consequence of the greater concentration of white workers in the private sector that produce segregated white social networks used by white job seekers in this sector, and the converse pattern of black concentrations and segregated black informal job networks used by blacks in the public sector.

Similarly, the racial composition of social networks was a factor in our further investigation of the types of jobs filled by black high school graduates in the private sector. Black males who used desegregated networks found higher average paying jobs in less segregated firms, while those who used segregated (black) networks became employed in lower paying more racially segregated jobs, and those who did not use social networks were between the other two groups.

Taken together, it appears from our results that there are important race and ethnic differences in the first stage of the employment process that derive from the quality of recriutment and job search methods to which the different groups have access.

7. Summary and Discussion

Our investigations of how employers recruit new workers indicates some general ways that education plays a major role in career processes and some areas where the school's role is weak.

First, education level of the job is a major determinant of what job recruitment methods and job search methods are used. Education level is much more important in this regard than sex, race, or ethnic factors. Education level alone also picks up a majority (from 60 to 70 percent) of the variance explained in job recruitment methods by various measures of job traits.

We find that jobs usually held by individuals with higher education levels are filled more often by School placement, Professional organizations, Private employment agencies, and Media ads. At the other end of the education spectrum, lower level jobs are more often filled by public employment services, community groups, walk-ins and unions.

Second, the specific method associated with educational institutions--placement services conducted by schools or colleges--is often used for matching individuals to higher level (college) jobs, but infrequently used otherwise. When school placement services are used to fill high school level jobs, it is primarily for office jobs filled by females.

Some evidence exists that females and minorities experience unequal access to job recruitment methods used by white males at the same education level, but we do find differences in recruitment methods and employment. Blacks are proportionally much more likely to work in public sector jobs and to use community groups to find private sector jobs. Blacks also seem to have less useful social contacts to find higher level jobs, for private sector jobs, and forsome higher payingjobs in desegregated work environments. Jobs filled by women make less use of union referrals and more use of direct applications and media ads.

References

Becker, H. J.

1977 How Young People Find Career-Entry Jobs: A Review of the Literature. Baltimore: Center for Social Organization of Schools, Johns Hopkins University.

Berg, I. (Ed.)

1981 Sociological Perspectives on Labor Markets. New York: Academic Press.

Black, M.

1980 An Analysis of Youth Job Search and Geographic Mobility. Washington: D.C.: Mathematics Policy Research.

Boudon, R.

1974 Education, Opportunity, and Social Inequality. New York: Wiley.

Cooley, W. & Lohnes, P. R.

1971 Multivariate Data Analysis. New York: Wiley.

England, P.

1918 "Assessing trends in occupational sex segregation, 1900-1976." Pp. 273-296 in Berg, I. (Ed.) Sociological Perspectives on Labor Markets. New York: Academic Press.

Fernandez, J. P.

1981 Racism and Sexism in Corporate Life: Changing Values in American Business. Lexington, MA: Lexington Books.

Friedman, T. & Williams, E. B.

1982 "Current use of tests for employment" Pp. 99-169, in Wigdor, A. K. & Garner U. R. (Eds.) Ability Testing: Uses, Consequences and Controversies. Washington, D.C.: National Academy Press.

Granovetter, M.

1974 Getting a Job: A Study of Contacts and Careers. Cambridge, MA: Harvard University Press.

Granovetter, M.

1981 "Toward a sociological theory of income differences" Pp. 11-48 in Berg, I. (Ed.) Sociological Perspectives on Labor Markets. New York: Academic Press.

Jencks, Christopher et al.

1979 Who Gets Ahead? New York: Basic Books.

Kalleberg, A. L. & Sorensen, A. B.

1979 "The sociology of labor markets. Annual Review of Sociology, 5, 351-79.

Lippman, S. & McCall, J.

1976 "The economics of job search: A survey." Economic Inquiry, 14, 155-189.

McPartland, J. M. & Crain, R. L.

1980 "RAcial discrimination, segregation, and processes of social mobility." Pp. 97-125. In Covello, V. T. (Ed.) Poverty and Public Policy. Boston: G. K. Hall.

McPartland, J. M. & Humphrey, R.

1984 Procedures to Construct a Nationally Representative Sample of Employers Linked to the Jobs Held by Respondents to the National Longitudinal Survey. Baltimore: Center for Social Organization of Schools, Johns Hopkins University.

Panel on Secondary School Education for the Changing Workplace

1984 High Schools and the Changing Workplace: The Employers' View. Washington, D.C.: National Academy Press.

Rosenbaum, J. E.

1984 Career Mobility in a Corporate Hierarchy. New York: Academic Press.

Sheppard, H. L. & Belitsky, A. H.

1966 The Job Hunt, Job Seeking Behavior of Unemployed Workers in a Local Economy. Baltimore: The JOhns Hopkins Press.

Sorensen, A. G. & Kalleberg, A. L.

1981 "An outline of a theory of the matching of persons to jobs." Pp. 49-74 in Berg, I. (Ed.) Sociological Perspectives on Labor Markets. New York: Academic Press.

Schmidt, F. L. & Hunter, J. E.

1981 "Employment testing: Old theories and new research findings." American Psychologist, 36: 1128-1137.

Sorensen, A. B. & Kalleberg, A. L.

1981 Outline of a theory for the matching of persons to jobs. In Berg, I. (Ed.) Sociological Perspectives on the Labor Market. New York: Academic Press.

Tenopyr, M. I.

1981 The Realities of Employment Testing," American Psychologist, 36: 1120-1127.

Thompson, B.

1984 Cannonical Correlation Analysis: Uses and Interpretation. Beverly HIlls, CA: Sage.

Thurow, L. C.

1975 Generating Inequality. New York: Basic Books.

U.S. Department of Labor

1975 Job-seeking Methods Used by AmericanWorkers (Bulletin 1886). Washington, D.C.: U.S. Government Printing Service.

Warwick, P. V.

1975 Cannonical Correlation Analysis. Pp. 515-527, In Nie, N. H. et al. SPSS (Second Edtion). New York: McGraw-Hill.

Wielgorz, J. B. & Carpenter, S.

1984 "The effectivenes of job search and job finding methods of young Americans." Pp. 90-126. In Baker, P. et al. (Ed.) Pathways to the Future, Vol. IV. Columbus, OH: Center for Human Resource Research.

Wigdon, A. K. & Garner, W. R. (Eds.)

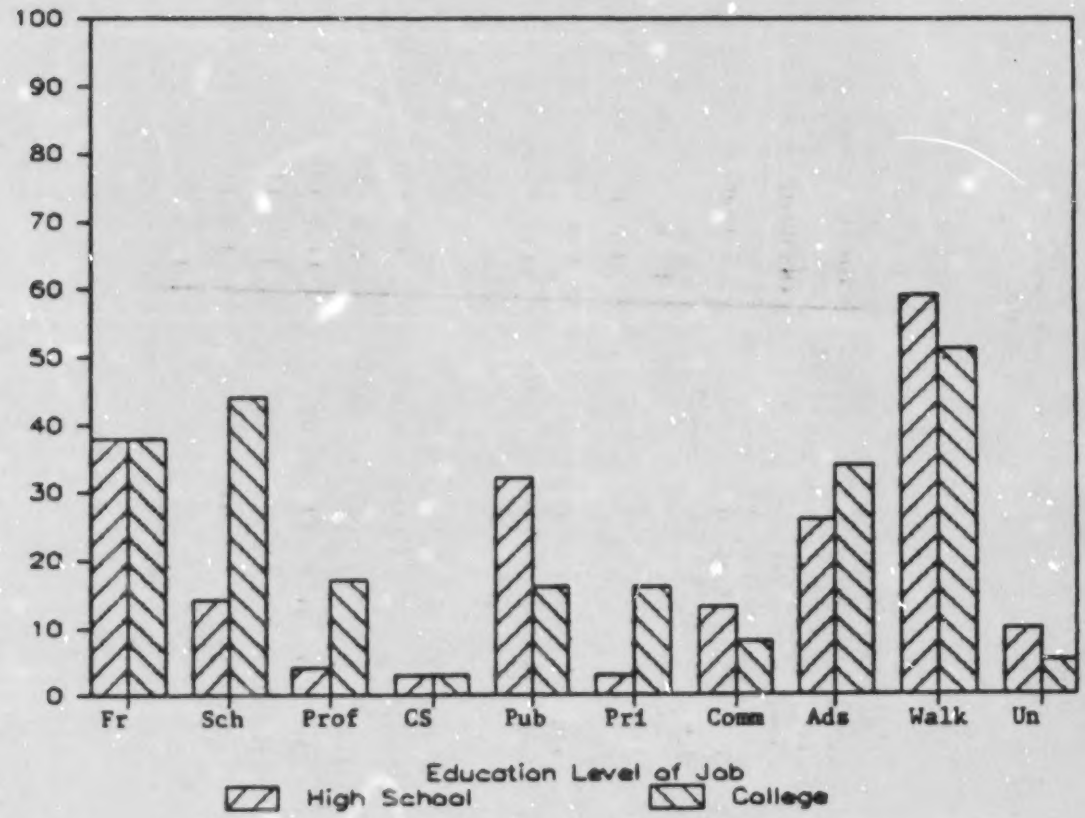
1982 Ability Testing: Uses Consequences, and Controversies. Part II: Documentation Section. Washington, D.C.: National Academic Press.

U.S. Department of Labor

1976 Recruitment, Job Search and the Unites States Employment Service (R & D Monograph 43). Washington, D.C.: U.S. Government Printing Service.

Figure 1

Employer Recruitment Methods for Private Sector Male Jobs



Fr = Friends of Employees
Sch = School Placement
Prof = Professional Organizations
CS = Civil Service
Pub = Public Employment Serv.
Pri = Private Employment Serv.
Comm = Community Groups
Ads = Media Ads
Walk = Walk-ins
Un = Unions

TABLE 1

Percent of Employers Who Use Different Job Recruitment Methods, and Percent of Employees Who Use Different Job Search Methods, by Employment Sector

	Employer				Employee			
	Total (N=3389)	Private Sector (N=2530)	Public Sector (N=859)	Pub.-Pri. t-statistic	Total (N=3810)	Private Sector (N=2900)	Public Sector (N=910)	Pub.-Pri. t-statistic
	% (Rank)	% (Rank)	% (Rank)		% (Rank)	% (Rank)	% (Rank)	
Friends	34.5 (2)	38.6 (2)	22.7 (6)	-8.48***				
Relatives					15.8	16.8	12.8	-2.82**
Friends					29.0 (2)	29.3 (2)	27.7 (2)	-0.96
School placement service	26.0 (5)	24.5 (5)	30.4 (4)	3.77***	8.9 (4)	7.3 (4)	14.0 (4)	6.13***
Professional organizations	8.9 (7)	7.7 (7)	12.2 (8)	3.91***	1.4 (8.5)	1.4 (8)	1.5 (8)	0.28
Civil Service	11.1 (8)	2.7 (10)	35.5 (2)	29.21***	4.9 (6)	0.4 (10)	19.0 (3)	24.37***
Public employment service	27.8 (4)	27.0 (4)	30.1 (5)	1.[illegible]8	6.9 (5)	6.2 (5)	9.0 (5)	2.92**
Private employment service	5.9 (9)	7.0 (8)	2.4 (10)	-4.95[illegible]	3.7 (7)	4.7 (6)	0.7 (9)	-5.59***
Community groups	14.0 (6)	11.6 (6)	20.9 (7)	6.78***	0.9 (10)	0.5 (9)	2.0 (7)	4.16***
Media ads	33.2 (3)	33.6 (3)	31.9 (3)	-0.88	11.0 (3)	12.4 (3)	6.8 (6)	-4.68***
Direct application (walk-in)	60.0 (1)	60.4 (1)	58.8 (1)	-0.79	37.3 (1)	37.7 (1)	36.2 (1)	-0.82
Union referral	5.7 (10)	5.9 (9)	4.6 (8)	-1.47	1.4 (8.5)	1.7 (7)	0.4 (10)	-2.81**
Sum =	2.271				1.212			

*** = $p < .001$

** = $p < .01$

* = $p < .05$

TABLE 2

Correlation between Employee Job Search Methods
and Employer Job Recruitment Methods Used for the Same Job

Employee Methods	Employer Methods									
	1	2	3	4	5	6	7	8	9	10-11
1. School placement service	.133	.085	.044	-.034	.031	-.004	-.011	-.010	-.004	-.024
2. Professional organizations	.070	.086	-.001	-.046	.019	-.012	-.002	-.025	.000	.014
3. Civil Service	-.032	-.035	.462	.001	-.071	.074	-.014	-.068	.014	-.125
4. Public employment service	-.037	-.016	.025	.074	.005	.015	.005	-.044	-.016	-.034
5. Private employment service	.040	.055	-.033	.026	.201	.022	.045	-.006	-.010	.024
6. Community group	-.003	.008	.029	.042	-.007	.064	.025	-.014	.005	-.034
7. Media ads	.027	.025	-.028	-.013	.053	-.002	.145	.016	-.023	.006
8. Direct application (walk-in)	.068	.030	-.040	-.058	-.058	-.006	-.010	.049	-.030	-.014
9. Union referral	-.055	-.040	-.043	-.045	-.034	-.046	-.030	-.072	.188	-.022
10. Relatives	-.096	-.075	-.024	.014	-.069	.004	-.092	-.020	.039	.003
11. Friends	-.040	-.008	-.018	.012	-.053	-.001	-.006	.002	.017	.051

TABLE 3

Percent of Employers Who Rank Each Job Recruitment Methods as "Most Important" and as "One of Three Most Important", by Sector

	Percent: Most Important Method			Percent: One of Three Most Important Methods			
	Total (N=1945)	Private Sector (N=1362)	Public Sector (N=583)	Total (N=1945)	Private Sector (N=1362)	Public Sector (N=583)	T-test (Pri-Pub)
1. Friends of employees	17.1	20.6	8.9	50.4	55.7	33.4	-10.05***
2. School placement service	9.5	8.5	11.7	31.1	30.6	32.1	0.64
3. Professional organizations	1.7	1.8	1.7	14.1	13.5	15.6	1.22
4. Civil Service	9.2	2.9	23.8	16.0	8.0	34.8	15.66***
5. Public employment service	12.3	12.8	11.1	35.6	35.8	35.0	-0.35
6. Private employment service	2.5	3.5	0.2	9.3	12.0	2.9	-6.41***
7. Community groups	0.9	0.4	1.9	11.0	9.7	14.1	2.83**
8. Media ads	18.4	20.4	13.7	43.0	45.3	37.7	-3.09**
9. Walk-ins	19.6	21.6	15.1	57.1	57.3	56.6	-0.30
10. Union referrals	1.2	1.7	0.2	3.6	4.6	1.4	-3.46**
11. Other	7.5	5.7	11.7	12.6	9.8	19.0	5.65*

*** = $p < .001$

** = $p < .01$

* = $p < .05$

TABLE 4

Summary of Factor Analysis of Employer Recruitment Methods, by Employment Sector

Varimax Rotated Factor Matrix

Private Sector	Factor 1	Factor 2	Factor 3	Communality
1. Friends of employees	.10036	.00147	.25265	.07391
2. School placement serv.	.44576	.14948	.13215	.23851
3. Professional orgs.	.74060	.04874	.02908	.55171
4. Civil Service	.24336	.26595	-.02051	.13037
5. Public empl. serv.	.12555	.48937	.13670	.27394
6. Private empl. serv.	.46983	.08306	.03800	.22909
7. Community groups	.08912	.83377	.34698	.82351
8. Media ads	.33036	-.02724	.24756	.17117
9. Walk-ins	-.00412	.07593	.31001	.10691
10. Unions	-.00928	.29258	-.17303	.11563
Public Sector				
11. Friends of employees	.08519	.17593	.28219	.11784
12. School placement serv.	.12467	.54940	.21605	.36406
13. Professional orgs.	.04376	.79359	.10119	.64194
14. Civil Service	.15318	-.13225	-.22040	.08953
15. Public empl. serv.	.71507	.13582	.03111	.53074
16. Private empl. serv.	.22445	.25189	.05523	.11688
17. Community groups	.64609	.11722	.05978	.43475
18. Media ads	.29861	.36207	.16053	.24603
19. Walk-ins	.27382	.05392	.68497	.54707
20. Unions	.26383	.06044	.14926	.09554

TABLE 5

Summary of Multiple Regression Analyses of Demographic Characteristics of Job on Employer Recruitment Methods, with One Control Variable*, by Sector

(b = unstandardized regression coeff.; B = standardized regression coeff.)

Independent Variable (Job Recruitment Method)	Private Sector (N=3100)					
	Dependent Variable					
	Percent Male in the Job			Percent with no College in the Job		
	b (1)	B (2)	F (3)	b (4)	B (5)	F (6)
1. Friends of employees	-.0094	-.029	(2.6)	.0012	004	(0.0)
2. School placement serv.	-.0256	-.080	(18.1)	-.0920	-.299	(303.4)
3. Professional orgs.	-.0054	-.013	(0.5)	-.1140	-.295	(298.3)
4. Civil Service	.0176	.031	(2.9)	-.0239	-.043	(5.9)
5. Public empl. serv.	-.0054	-.018	(1.0)	.0435	.152	(73.8)
6. Private empl. serv.	-.0079	-.018	(1.1)	-.0726	-.180	(104.8)
7. Community groups	-.0110	-.030	(2.9)	.0186	.053	(9.1)
8. Media ads	-.0269	-.081	(25.3)	-.0477	-.168	(90.2)
9. Walk-ins	-.0340	-.103	(33.5)	.0179	.056	(9.9)
10. Union referrals	.0698	.162	(83.2)	.0317	.076	(17.9)
	Public Sector (N=978)					
11. Friends of employees	-.0113	-.038	(1.4)	-.0072	-.023	(0.5)
12. School placement serv.	-.0189	-.069	(3.9)	-.1160	-.410	(196.8)
13. Professional orgs.	.0216	.066	(3.8)	-.1192	-.352	(138.6)
14. Civil Service	-.0173	-.080	(6.2)	.0388	.174	(30.3)
15. Public empl. serv.	-.0062	-.024	(0.5)	.0372	.138	(19.1)
16. Private empl. serv.	-.0269	-.052	(2.7)	-.0039	-.007	(0.0)
17. Community groups	.0068	.024	(0.6)	.0296	.100	(9.9)
18. Media ads	.0077	.029	(0.8)	-.0362	-.121	(17.1)
19. Walk-ins	-.0188	-.062	(3.8)	.0078	.025	(0.6)
20. Union referrals	.0268	.061	(3.6)	.0145	.032	(0.9)

*When "Percent Male in the Job" is the dependent variable, "Percent with no College" is the control variable; when "Percent with no College in the Job" is the dependent variable, "Percent Male" is the control variable.

TABLE 6

Summary of Multiple Regression Analyses of
Job Search Methods on Individual's Sex and Educational
Attainment, by Sector

(b = unstandardized regression coeff.; B = standardized regression coeff.)

Dependent Variable (Job Search Method)	Private Sector (N=3100)					
	Independent Variables*					
	Sex			Educational Attainment		
	b (1)	B (2)	F (3)	b (4)	B (5)	F (6)
1. Relatives	.0608	.081	(21.0)	-.0664	-.135	(58.3)
2. Friends	.0447	.049	(7.4)	-.0256	-.042	(5.7)
3. School placement serv.	.0048	.009	(0.2)	.0549	.160	(81.0)
4. Professional orgs.	.0034	.014	(0.6)	.0106	.068	(14.4)
5. Civil Service	.0049	.036	(4.1)	-.0002	-.000	(0.0)
6. Public empl. serv.	-.141	-.029	(2.6)	-.0035	-.010	(0.3)
7. Private empl. serv.	-.0265	-.062	(12.3)	.0180	.065	(13.3)
8. Community groups	-.0048	-.003	(3.4)	.0020	.021	(1.4)
9. Media ads	-.0501	-.076	(18.0)	.0207	.047	(7.1)
10. Direct application	.0171	.017	(0.9)	.0087	.013	(0.5)
11. Union	.0230	.089	(24.9)	-.0001	-.000	(0.0)
	Public Sector (N=978)					
12. Relatives	.0291	.042	(1.7)	-.0307	-.073	(5.3)
13. Friends	.0058	.006	(0.0)	-.0040	-.007	(0.0)
14. School placement serv.	-.0056	-.007	(0.0)	.0885	.205	(42.8)
15. Professional orgs.	-.0022	-.008	(0.0)	.0046	.030	(0.8)
16. Civil Service	.0182	.002	(0.5)	-.0323	-.090	(10.2)
17. Public empl. serv.	-.0037	-.006	(0.0)	-.0323	-.090	(8.2)
18. Private empl. serv.	.0029	.018	(0.3)	.0023	.022	(0.5)
19. Community groups	-.0100	-.035	(1.2)	-.0072	-.041	(1.6)
20. Media ads	-.0214	-.041	(1.7)	-.0138	-.044	(1.9)
21. Direct application	.0343	.035	(1.2)	.0568	.095	(8.9)
22. Union	-.0026	-.019	(0.3)	.0020	.024	(0.5)

*Sex: Male = 1; Female = 0
Education attainment: 1 = High School, 2 = Some College, 3 = College Degree

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TABLE 7

How Employer Recruitment Methods are Related to Sex Composition of Jobs, by Educational Level and Sector*

	Private Sector								
	High School Jobs (N=1925)			Some College Jobs (N=790)			College Degree Jobs (N=558)		
	b	B	F	b	B	F	b	B	F
1. Friends of employees	-.0092	-.027	(1.4)	-.0149	-.049	(1.9)	-.0058	-.020	(0.2)
2. School placement service	-.0468	-.132	(33.5)	-.0116	-.036	(1.0)	-.0094	-.034	(0.6)
3. Professional organizations	-.0171	-.034	(2.3)	-.0226	-.058	(2.6)	-.0036	-.012	(0.1)
4. Civil Service	.0221	.036	(2.6)	.0217	.039	(1.2)	.0026	.005	(0.0)
5. Public employment service	-.0042	-.014	(0.5)	-.0144	-.048	(1.8)	.0098	.033	(0.6)
6. Private employment service	-.0312	-.064	(8.0)	.0010	.003	(0.0)	.0257	.076	(3.3)
7. Community groups	.0002	.000	(0.0)	-.0363	-.107	(9.0)	-.0148	-.042	(1.0)
8. Media ads	-.0208	-.068	(9.8)	-.0386	-.133	(13.9)	-.0420	-.156	(13.8)
9. Walk-ins	-.0326	-.096	(18.0)	-.0372	-.118	(11.1)	-.0145	-.048	(1.3)
10. Union Referrals	.0863	.206	(86.3)	.0389	.085	(5.6)	.0247	.050	(1.4)

	Public Sector								
	High School Jobs (N=471)			Some College Jobs (N=258)			College Degree Jobs (N=292)		
	b	B	F	b	B	F	b	B	F
11. Friends of employees	-.0288	-.088	(3.7)	.0139	.049	(0.6)	-.0186	-.073	(1.6)
12. School placement service	-.0209	-.062	(1.8)	-.0079	-.029	(0.2)	-.0353	-.138	(5.2)
13. Professional organizations	.0385	.087	(3.6)	.0094	.026	(0.2)	.0089	.034	(0.3)
14. Civil Service	.0239	.107	(5.6)	.0401	.184	(8.4)	.0098	.048	(0.7)
15. Public employment service	.0040	.014	(0.1)	-.0252	-.100	(2.5)	.0039	.016	(0.1)
16. Private employment service	-.0106	-.020	(0.2)	-.0698	-.127	(4.2)	-.0222	-.051	(0.8)
17. Community groups	.0169	.055	(1.5)	.0145	.053	(0.7)	.0177	.068	(1.4)
18. Media ads	.0146	.052	(1.3)	.0040	.015	(0.1)	.0053	.022	(0.1)
19. Walk-ins	-.0003	-.001	(0.0)	-.0203	-.070	(1.2)	-.0479	-.175	(9.1)
20. Union Referrals	.0525	.118	(6.8)	.0667	.133	(4.6)	-.0336	-.085	(2.1)

* High School Jobs are those where 50 percent or more of the job incumbents have no more than a high school diploma; some College Jobs are where 50 percent or more have some college; College Jobs are 50 percent or more have some college; College Degree Jobs are where 50 percent or more have college degrees. Each set of coefficients (b, B, F) is from a separate regression analysis, where "Percent male in the Job: is the dependent variable, and one employer recruitment method is the first independent variable, and "Percent with High School Education in the Job" or "Percent with a College Degree in the Job: is the second independent variable.

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TABLE 8

Summary of Six Canonical Correlation Analyses

Employer Methods:	Private (N = 3100)		Public (N = 978)		Total (N = 4078)	
	CANV 1	CANV 2	CANV 1	CANV 2	CANV 1	CANV 2
First Set						
1. Friends	.086	-.057	.105	-.138	.138	-.036
2. School placement	-.548	-.098	-.690	-.480	-.614	-.212
3. Professional organization	-.374	.305	-.345	.670	-.418	.402
4. Civil Service	.005	.137	.200	.320	-.055	.004
5. Public service	.429	-.204	.278	-.222	.399	-.179
6. Private service	-.194	.062	.078	-.383	-.088	-.053
7. Community group	.050	-.166	.201	.213	.082	-.085
8. Ads	-.253	-.228	-.107	.227	-.201	-.149
9. Walk-in	.071	-.478	.130	-.365	.085	-.496
10. Union	.196	.703	.020	.411	.156	.750
Second Set						
1. Job % no college	.967	-.269	.998	-.075	.983	-.201
2. Job % male	.183	.987	.024	1.001	.111	.998
Eigenvalue	(.207)	(.041)	(.282)	(.033)	(.220)	(.034)
Employee Methods:						
First Set						
1. Relatives	.578	.077	.403	NS	.567	.201
2. Friends	.235	.206	.025		.175	.297
3. School placement	-.467	.515	-.568		-.588	.509
4. Professional organization	-.120	.227	-.093		-.110	.256
5. Civil Service	-.051	.296	.491		-.027	.149
6. Public service	.095	-.370	.308		.123	-.259
7. Private service	-.276	-.041	-.065		-.190	-.031
8. Community group	-.042	-.125	.018		-.060	-.071
9. Ads	-.236	-.151	-.054		-.141	-.125
10. Walk-in	-.108	-.033	-.162		-.132	.074
11. Union	.316	.543	.067		.282	.638
Second Set						
1. Job % no college	.858	-.522	.941		.897	-.451
2. Job % male	.444	.900	.292		.368	.434
Eigenvalue	(.067)	(.019)	(.066)	(.011)	(.061)	(.014)

TABLE 9

Partitioning of Variance Accounted for by Employer Recruitment Methods

	Private	Public	Total
Unique (Sex composition)	.00552 (2.7%)	.00014 (0.1%)	.00228 (1.0%)
Unique (Educ. composition)	.15366 (74.3%)	.17236 (83.3%)	.17937 (81.3%)
Joint (Sex and Education)	.04764 (23.0%)	.03432 (16.6%)	.03891 (17.6%)
Total	.20682 (100%)	.28194 (100%)	.22056 (100%)

Table 10

PERCENT OF PRIVATE SECTOR EMPLOYERS WHO FREQUENTLY USE VARIOUS JOB RECRUITMENT METHODS FOR MALE JOBS WITH DIFFERENT EDUCATION LEVELS, WITH ADJUSTMENT FACTORS* FOR SECTOR AND JOB SEX

Job Recruitment Method	Education Level of Job			Adjustment Factor for:	
	High School	Some College	College Degree	Sector (Public)	Job Sex (Female)
Friends of employees	38	37	38	-16	+1
School placement service	14	27	44	+2	+3
Professional organizations	4	8	17	+3	-1
Civil service	3	4	3	+34	-3
Public employment services	32	24	16	+4	-1
Private employment services	3	10	16	-5	0
Community groups	13	12	8	+10	-1
Media ads	26	34	34	-4	+5
Walk-ins	59	52	51	-15	+8
Union referrals	10	6	5	-1	-4

TABLE 11

Effect of Firm Size and City Size on Frequency of Use of Different Employer Recruitment Methods, with 2 Controls*, by Sector

Dependent Variable (Job Search Method)	Private Sector (N=3100)					
	Firm Size			City Size		
	b (1)	B (2)	F (3)	b (4)	B (5)	F (6)
1. Friends of employees	-.1145	-.040	(4.8)	.0411	.037	(4.0)
2. School placement serv.	.2998	.103	(36.5)	-.0026	-.002	(0.0)
3. Professional orgs.	.0389	.017	(0.9)	.0330	.037	(4.4)
4. Civil Service	.0456	.028	(2.4)	.0082	.013	(0.5)
5. Public empl. serv.	.5403	.173	(96.8)	-.0598	-.049	(7.7)
6. Private empl. serv.	-.0885	-.040	(5.1)	.0964	.112	(39.0)
7. Community groups	.8281	.320	(352.7)	.0740	.073	(18.2)
8. Media ads	.0315	.010	(0.3)	.0927	.076	(17.8)
9. Walk-ins	.4735	.168	(89.4)	.0121	.011	(0.4)
10. Union referrals	.1586	.073	(17.1)	.0331	.039	(4.8)
	Public Sector (N=978)					
	Firm Size			City Size		
	b (1)	B (2)	F (3)	b (4)	B (5)	F (6)
11. Friends of employees	-.1641	-.062	(3.6)	.0065	.006	(0.0)
12. School placement serv.	.0493	.017	(0.3)	-.0120	-.009	(0.1)
13. Professional orgs.	-.0308	-.013	(0.2)	.0160	.015	(0.2)
14. Civil Service	.3821	.104	(10.9)	.2317	.144	(20.7)
15. Public empl. serv.	.4153	.137	(18.1)	-.0521	-.039	(1.5)
16. Private empl. serv.	.0115	.008	(0.0)	-.0111	-.016	(0.2)
17. Community groups	.5192	.188	(34.5)	.0788	.065	(4.1)
18. Media ads	.1612	.055	(2.8)	-.0335	-.025	(0.6)
19. Walk-ins	.6061	.212	(52.4)	-.0628	-.054	(2.9)
20. Union referrals	.2594	.146	(20.1)	.0826	.010	(0.1)

* Control variables are "percent male in the job" and "percent with no college in the job".

Table 12

Distribution of Industries in Sample of Employers and Jobs

Industrial Category	Private Sector		Public Sector	
	% in Sample	Most frequent industries in sample	% in Sample	Most frequent industries in Sample
1. Agriculture and Mining	2.5	Crude oil, Coal, Agriculture	0.6	Forestry
2. Construction	4.3	Construction	2.1	Construction
3. Manufacturing	24.2	Motor vehicle, Apparel, Chem., Steel, Elec equip, Printing	2.7	Paint mfgr.
4. Transportation, Comm. & Util.	7.8	Telephone, Trucking, Elec. Util., Railroads	6.7	U.S. Postal, Sanitary Serv.
5. Trade	22.7	Eating & Drinking Places; Dept. Stores, Grocery Stores	2.1	Eating & Drinking Places
6. Finance, Ins. & Real Estate	9.5	Banking, Insurance	2.6	Real Estate, Insurance, Banking
7. Services	28.4	Hospitals, Schools, Bus. Serv., Hotels	56.1	Schools, Colleges, Hospitals, Social Serv.
8. Public Administration	0.6	Justice & Safety, Environment, Quality or Housing Administration	27.1	Justice and Safety, General Government

Table 13

Effect of Industrial Category on Frequency of Use of Different Employer Recruitment Methods, with 4 Controls[a], by Sector

Dependent Variable (Job Recruitment Method)	Agr. & Mining			Construction			Manufacturing			Trans., Comm., & Util.		
Private Sector (N = 3100)	b	B	F	b	B	F	b	B	F	b	B	F
1. Friends of employees	.2019	.025	(1.8)	-.0580	-.009	(0.2)	-.1675	-.056	(8.8)	-.0810	-.017	(0.9)
2. School placement service	-.2741	-.033	(3.8)	-.4617	-.069	(15.6)	-.1604	-.053	(8.9)	-.0900	-.001	(1.2)
3. Professional orgs.	-.0393	-.006	(0.1)	-.0705	-.014	(0.6)	-.1324	-.055	(9.4)	-.0284	-.007	(0.2)
4. Civil Service	-.0897	-.020	(1.2)	-.0083	-.003	(0.0)	-.0468	-.028	(2.2)	-.0029	-.001	(0.0)
5. Public empl. serv.	-.1624	-.018	(1.1)	-.3795	-.055	(9.4)	.5044	.155	(73.9)	.1917	.037	(4.4)
6. Private empl. s..v.	.0468	.007	(0.2)	-.1279	-.026	(2.1)	.7110	.031	(2.8)	-.0367	-.010	(0.3)
7. Community groups	-.2384	-.032	(3.6)	-.3473	-.061	(12.2)	.1784	.066	(14.1)	.2424	.056	(10.8)
8. Media ads	-.5485	-.061	(12.0)	-.1263	-.018	(1.0)	.0811	.025	(1.9)	-.5041	-.096	(29.5)
9. Walk-ins	.0708	.009	(0.2)	-.3126	-.050	(7.7)	-.1565	-.053	(8.4)	-.1871	-.040	(5.0)
10. Unions	-.2129	-.035	(3.8)	.9280	.194	(119.6)	.0614	.027	(2.2)	.1928	.054	(9.1)
Public Sector (N = 978												
11. Friends of employees	-.5108	-.029	(0.8)	-.2076	-.023	(0.5)	.2355	.030	(0.8)	-.2252	-.041	(1.7)
12. School placement serv.	.1294	.007	(0.0)	-.0552	-.006	(0.0)	-.0303	-.003	(0.0)	-.3688	-.065	(4.6)
13. Professional orgs.	-.1439	-.009	(0.1)	.1317	.016	(0.3)	-.0969	-.013	(0.2)	-.1248	-.026	(0.7)
14. Civil Service	-.0411	-.002	(0.0)	.3463	.030	(0.9)	-.0487	-.004	(0.0)	.2348	.033	(1.0)
15. Public empl. serv.	1.1343	.057	(3.2)	-.0436	-.004	(0.0)	.7108	.077	(6.0)	-.4238	-.072	(4.9)
16. Private empl. serv.	-.0444	-.004	(0.0)	-.0316	-.004	(0.0)	.4086	.088	(7.5)	-.0282	-.009	(0.1)
17. Community group	.1669	.009	(0.1)	.1649	.018	(0.3)	.4601	.055	(3.0)	-.0246	-.004	(0.0)
18. Media ads	-.1111	-.005	(0.1)	-.2349	-.023	(0.5)	.0021	.000	(0.0)	.0568	.009	(0.1)
19. Walk-ins	.1369	.008	(0.1)	.2189	.025	(0.6)	.5596	.070	(5.0)	-.3391	-.066	(4.2)
20. Unions	.2668	.023	(0.5)	.1530	.025	(0.6)	.2243	.041	(1.7)	-.0691	-.020	(0.4)

[a] four control variables are: size of establishment, city size, percent with no college in the job, percent male in the job.

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Table 13 (Continued)

Dependent Variable (Job Recruitment Method)	Trade			Fin., Ins., Real Est.			Services			Public Admin.		
Private Sector (N = 3100)	b	B	F	b	B	F	b	B	F	b	B	F
1. Friends of employees	-.0303	-.010	(0.3)	.4721	.108	(35.1)	.0027	.001	(0.0)	-.5841	-.034	(3.6)
2. School placement service	.0735	.024	(1.9)	.1829	.041	(5.8)	.1438	.050	(7.7)	.1914	.011	(0.4)
3. Professional orgs.	-.1618	-.066	(14.1)	.0744	.021	(1.5)	.2614	.114	(38.8)	-.0399	-.003	(0.0)
4. Civil Service	.0060	.003	(0.0)	-.0139	-.006	(0.1)	.0520	.032	(2.9)	.1617	.017	(0.9)
5. Public empl. serv.	-.2678	-.081	(20.6)	.2817	.060	(11.2)	-.3172	-.102	(31.0)	.3561	.019	(1.2)
6. Private empl. serv.	-.0946	-.040	(5.0)	.4268	.127	(51.0)	-.1257	-.057	(9.5)	-.4215	-.032	(3.4)
7. Community groups	-.1000	-.036	(4.4)	.3386	.086	(25.2)	-.2386	-.093	(27.2)	.8266	.054	(10.2)
8. Media ads	-.0291	-.009	(0.2)	.0149	.003	(0.0)	.1957	.063	(11.3)	.8259	.044	(6.4)
9. Walk-ins	.2967	.099	(30.5)	.0194	.004	(0.1)	-.0177	-.006	(0.1)	.2124	.013	(0.5)
10. Unions	-.1629	-.071	(15.6)	-.2498	-.076	(18.1)	-.0362	-.017	(0.8)	-.0037	-.000	(0.0)
Public Sector (N = 978												
11. Friends of employees	-.0941	-.010	(0.1)	-.3331	-.041	(1.6)	.1502	.057	(2.8)	-.0449	-.015	(0.2)
12. School placement serv.	.5139	.052	(3.2)	.3267	.037	(1.6)	.0686	.024	(0.6)	-.0674	-.021	(0.5)
13. Professional orgs.	.0931	.011	(0.1)	.2021	.027	(0.8)	.0548	.023	(0.5)	-.0651	-.024	(0.7)
14. Civil Service	-.5118	-.041	(1.8)	.2181	.142	(0.4)	-1.0054	-.276	(76.2)	1.0256	.254	(72.5)
15. Public empl. serv.	.3111	.030	(0.9)	.0064	.001	(0.0)	-.2798	-.094	(7.7)	.2853	.086	(7.4)
16. Private empl. serv.	.0747	.014	(0.2)	.1701	.036	(1.2)	-.0394	-.026	(0.6)	-.0248	-.015	(0.2)
17. Community groups	-.2775	-.029	(0.9)	.1167	.014	(0.2)	-.1834	-.067	(4.0)	.1426	.047	(2.2)
18. Media ads	.8235	.082	(6.6)	.0805	.009	(0.1)	-.0036	-.001	(0.0)	-.0728	-.022	(0.5)
19. Walk-ins	-.1840	-.021	(0.4)	-.2133	-.026	(0.7)	.2492	.096	(8.4)	-.2204	-.076	(4.0)
20. Unions	-.2708	-.045	(2.0)	-.0861	-.016	(0.2)	.0881	.050	(2.2)	0.6870	-.044	(1.9)

[a] The four control variables are: size of establishment, city size, percent with no college in the job, percent male in the job.

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TABLE 14

Summary of Cannonical Correlation Analyses of Job Recruitment and Job Traits, by Sector

		Private (N=3100) R2 (Rank)	Public (N=978) R2 (Rank)
	Ten Job Recruitment Methods with		
1.	Percent No College and Percent Male In Job	.20682	.28194
2.	Add: Methodical	.21083 (15)	.28295 (15)
3.	Manual Dexterity	.21522 (14)	.28266 (16)
4.	Quick Learner	.21893 (13)	.29439 (12)
5.	Basic Literacy	.23929 (5)	.28342 (14)
6.	Advanced Readers	.24937 (2)	.31391 (6)
7.	Basic Arithmetic	.22622 (9)	.33301 (3)
8.	Excellent Math	.23034 (7)	.31182 (7)
9.	Specialized Knowledge	.24251 (4)	.32086 (4)
10.	Client Relations	.25093 (1)	.30480 (9)
11.	Permanence	.22273 (12)	.30028 (11)
12.	Growth Potential	.22365 (11)	.30187 (10)
13.	Good Team Members	.22426 (10)	.30849 (8)
14.	Proper Attitudes	.20688 (17)	.28257 (17)
15.	Dependable	.20795 (16)	.28481 (13)
16.	Good Judgement	.24760 (3)	.33336 (2)
17.	Can Supervise	.23990 (6)	.35346 (1)
18.	Other	.22995 (8)	.31587 (5)
19.	Add: All 17 Job Traits	.32019	.44016
20.	Ten Methods with 17 Job Traits	.27623	.38404
21.	UNIQUE (Traits)	.11337 (35.4%)	.15822 (35.9%)
22.	UNIQUE (% no coll., % male)	.04396 (13.7%)	.05612 (12.7%)
23.	JOINT	.16286 (50.9%)	.22582 (51.3%)

TABLE 15

Summary of Cannonical Correlation Analyses of Job Recruitment and Job Traits, by Sector

		Private (N=3100) R2 (Rank)	Public (N=978) R2 (Rank)
1.	Ten Job Recruitment Methods with Percent College Dgree and Percent Male in Job	.18334	.31588
2.	Add: Methodical	.18609 (15)	.31711 (15)
3.	Manual Dexterity	.18845 (14)	.31596 (16)
4.	Quick Learner	.20286 (13)	.33289 (11)
5.	Basic Literacy	.22901 (4)	.32164 (13)
6.	Advanced Readers	.23797 (2)	.34023 (6)
7.	Basic Arithmetic	.21659 (8)	.36349 (3)
8.	Excellent Math	.21907 (7)	.34515 (5)
9.	Specialized Knowledge	.22399 (5)	.33375 (10)
10.	Client Relations	.24180 (1)	.33595 (8)
11.	Permanence	.20495 (12)	.32385 (12)
12.	Growth Potential	.20794 (10)	.33539 (9)
13.	Good Team Member	.20684 (11)	.33692 (7)
14.	Proper Attitudes	.18353 (17)	.31592 (17)
15.	Dependable	.18384 (16)	.31828 (14)
16.	Good Judgement	.23611 (3)	.36727 (2)
17.	Can Supervise	.22165 (6)	.37037 (1)
18.	Other	.21180 (9)	.35266 (4)
19.	Add: All 17 Traits	.31660	.45195
20.	Ten Methods with 17 Job Traits	.27623	.38404
21.	UNIQUE (Traits)	.13326 (42.1%)	.13607 (30.1%)
22.	UNIQUE (% college, %male)	.04037 (12.8%)	.06791 (15.0%)
23.	JOINT	.14297 (45.2%)	.24797 (54.9%)

TABLE 16

How Employer Recruitment Methods are Related to Race and Ethnic Composition of Jobs, With Two Controls,* By Sector

Independent Variable (Job Recruitment Method)	Private (N=3100) b	B	F	Public (N=978) b	B	F	Total (N=4078) b	B	F
Dependent Variable = Percent Black in the Job									
1. Friends of employees	.0004	.002	(0.0)	-.0093	-.040	(1.6)	-.0025	-.012	(0.6)
2. School Placement	.0030	.014	(0.6)	-.0077	-.036	(1.1)	.0002	.001	(0.0)
3. Professional organizations	-.0040	-.015	(0.7)	-.168	-.066	(3.9)	-.0080	-.030	(3.6)
4. Civil Service	.0140	.037	(4.4)	.0041	.024	(0.6)	.0086	.038	(4.7)
5. Public employment service	.0066	.033	(3.5)	.0040	.020	(0.4)	.0062	.031	(4.1)
6. Private employment service	-.0065	-.023	(1.7)	.0182	.045	(2.1)	-.0019	-.006	(0.2)
7. Community groups	.0297	.126	(51.3)	.0066	.030	(0.9)	.0228	.098	(41.1)
8. Media ads	-.0125	-.065	(12.8)	-.0131	-.063	(4.0)	-.0128	-.065	(17.3)
9. Walk-ins	.0098	.046	(6.6)	.0077	.033	(1.1)	.0091	.041	(7.1)
10. Unions	.0064	.023	(1.6)	.0173	.050	(2.5)	.0095	.032	(4.2)
Dependent Variable = Percent Hispanic in the Job									
11. Friends of employees	.0024	.015	(0.8)	.0059	.035	(1.2)	.0032	.020	(1.6)
12. School placement	-.0004	-.002	(0.0)	.0004	.003	(0.0)	.0001	.000	(0.0)
13. Professional organizations	.0001	.001	(0.0)	.0076	.040	(1.4)	.0024	.012	(0.6)
14. Civil Service	.0083	.030	(2.8)	-.0064	-.053	(2.7)	-.0022	-.013	(0.5)
15. Public employment service	-.0027	-.019	(1.1)	.0057	.039	(1.4)	-.0001	-.001	(0.0)
16. Private employment service	.0026	.013	(0.5)	.0123	.042	(1.7)	.0042	.019	(1.5)
17. Community groups	-.0013	-.007	(0.2)	.0149	.092	(8.2)	.0040	.023	(2.2)
18. Media ads	-.0064	-.044	(6.0)	.0030	.020.	(0.4)	-.0041	-.028	(3.1)
19. Walk-ins	.0050	.032	(3.1)	-.0022	-.013	(0.2)	.0030	.019	(1.4)
20. Unions	.0050	.024	(1.7)	.0049	.019	(0.4)	.0054	.024	(2.4)

* Two control variables are Percent with no college in the job, and Percent male in the job. A dichotomous variable for private or public sector is added to the total analyses as a control.

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Table 17

Summary of Cannonical Correlation Analyses
of Percent Black in the Job

Cannonical Variables	Private Sector (N=3100)			Public Sector (N=378)		
	CANV1	CANV2	CANV3	CANV1	CANV2	CANV3
First Set:						
1. Friends	-.083	-.043	-.096	.091	-.054	NS
2. Sch. placement	.541	-.125	.143	-.677	.528	
3. Prof. orgs.	.372	.282	.155	-.402	.660	
4. Civil serv.	-.011	.110	.187	.200	.303	
5. Publ. serv.	-.417	-.142	-.413	.273	-.177	
6. Pri. serv.	.196	.066	-.033	.093	-.437	
7. Community	-.086	-.302	.904	.206	.176	
8. Ads	.267	-.166	-.445	-.124	.304	
9. Walk-in	-.078	-.487	.025	.141	-.398	
10. Unions	-.191	.700	.080	.030	.337	
Second Set:						
11. % no college in job	-.942	-.202	-.331	.961	.015	
12. % male in job	-.182	.964	.213	.035	.941	
13. % black in job	-.117	-.209	.986	.144	-.258	
Eigenvalue	.209	.042	.021	.287	.034	.011

Table 18

Summary of Cannonical Correlation Analyses of Percent Hispanic in the Job

Cannonical Variables	Private Sector (N=3100)			Public Sector (N=978)		
	CANV1	CANV2	CANV3	CANV1	CANV2	CANV3
First Set:						
1. Friends	-.086	.048	-.220	-.107	.107	-.300
2. Sch. placement	.548	.095	-.089	.691	.503	.186
3. Prof. orgs.	.374	-.304	.022	.394	-.690	-.157
4. Civil serv.	-.007	-.152	-.371	-.198	-.260	.576
5. Publ serv.	-.428	.215	.250	-.278	.223	-.010
6. Pri. serv.	.193	-.074	-.316	-.079	.355	-.282
7. Community	-.050	.172	.152	-.204	-.297	-.770
8. Ads	.255	.252	.601	.107	-.214	.137
9. Walk-in	.072	.452	-.655	-.129	.401	.313
10. Unions	-.197	-.704	-.024	-.021	-.410	.034
Second Set:						
11. % No college in job	-.963	.285	.015	-.997	.092	.102
12. % male in job	-.183	-.975	.941	-.024	-.995	.112
13. % Hispanic in job	-.022	-.116	-.258	-.013	-.150	-.994
Eigenvalue	.207	.042	.005	.282	.033	.017

Table 19

How Employee Race is Related to Job Search Methods, with Two Controls,* by Sector

Dependent Variable (Job Search Method)	Race Independent Variable: Black (=1) White (=0)					
	Private (N=3100)			(Public (N=978)		
	b	B	F	b	B	F
1. Relatives	-.0122	-.016	(0.8)	.0224	.033	(1.0)
2. Friends	-.0095	-.010	(0.3)	.0206	.023	(0.5)
3. School placement	.0122	.023	(1.6)	-.0276	-.040	(1.3)
4. Professional orgs.	.0068	.028	(2.5)	-.0065	-.026	(0.6)
5. Civil Service	.0072	.053	(8.7)	-.0316	-.040	(1.5)
6. Public empl. serv.	.0583	.118	(43.5)	.0188	.033	(1.0)
7. Private empl. serv.	.014[illegible]	33	(3.4)	-.0054	-.033	(1.0)
8. Community groups	.[illegible]	.036	(4.0)	.0027	.096	(8.5)
9. Media ads	.0152	-.023	(1.6)	-.0156	-.031	(0.9)
10. Walk-in	-.0481	-.048	(7.3)	-.493	-.051	(2.4)
11. Unions	.0014	.005	(0.1)	-.0016	-.022	(0.5)
	Ethnicity Independent Variable: Hispanic (=1) White (=0)					
	Private (N=3100)			(Public (N=978)		
	b	B	F	b	B	F
12. Relatives	.0041	.004	(0.1)	.0040	.006	(0.0)
13. Friends	.0100	.009	(0.2)	.0059	.006	(0.0)
14. School placement	-.0101	-.016	(0.8)	-.0073	-.010	(0.1)
15. Professional orgs.	-.0036	-.013	(0.5)	-.0046	-.017	(0.3)
16. Civil Service	.0077	.048	(6.8)	-.0755	-.089	(7.3)
17. Public empl. serv.	.0478	.081	(20.2)	.0588	.093	(8.0)
18. Private empl. serv.	.0106	.021	(1.3)	-.0098	-.056	(2.8)
19. Community groups	.0027	.016	(0.7)	.0373	.124	(14.2)
20. Media ads	-.0247	-.031	(2.9)	-.0060	-.011	(0.1)
21. Walk-in	-.0344	-.029	(2.6)	.0125	.012	(0.1)
22. Unions	.0026	.008	(0.2)	.0016	.011	(0.1)

*Two control variables = individual's educational attainment (1 = high school, 2 = some college, 3 = college degree), individual's sex (1 = male, 0 = female).

TABLE 20

How Employer Recruitment Methods are Related to Percent Black in the Jobs, By Education Level and Sector*

Job Recruitment Method	Private Sector								
	High School Jobs (N=1925)			Some College Jobs (N=790)			College Degree Jobs (N=558)		
	b	B	F	b	B	F	b	B	F
1. Friends of employees	.0051	.022	(1.0)	-.009	-.005	(0.0)	-.0156	-.088	(4.5)
2. School placement service	.0037	.016	(0.4)	.0083	.004	(1.5)	.0089	.052	(1.5)
3. Professional organizations	-.0109	-.033	(2.2)	-.0032	-.014	(0.1)	.0063	.034	(0.6)
4. Civil Service	.0128	.032	(1.9)	.0161	.049	(1.9)	.0124	.042	(0.9)
5. Public employment service	.0057	.028	(1.5)	.0073	.042	(1.3)	.0163	.090	(4.7)
6. Private employment service	-.0046	-.014	(0.4)	.0070	.031	(0.8)	-.0131	-.063	(2.3)
7. Community groups	.0259	.105	(21.8)	.0343	.172	(23.4)	.0367	.171	(17.6)
8. Media ads	-.0101	-.049	(4.7)	-.0127	-.074	(4.3)	-.0124	-.075	(3.2)
9. Walk-ins	.0106	.047	(4.3)	.0113	.061	(2.9)	.0096	.052	(1.6)
10. Union referrals	-.0051	-.018	(0.6)	.0118	.044	(1.5)	.0532	.176	(18.7)
	Public Sector								
	High School Jobs (N=471)			Some College Jobs (N=258)			College Degree Jobs (N=292)		
	b	B	F	b	B	F	b	B	F
11. Friends of employees	.0001	.000	(0.0)	-.0012	-.006	(0.0)	-.0313	-.151	(6.9)
12. School placement service	-.0100	-.040	(0.7)	.0094	.046	(0.5)	-.0145	-.069	(1.3)
13. Professional organizations	-.0292	-.088	(3.6)	-.0300	-.109	(3.1)	.0045	.021	(0.1)
14. Civil Service	.0082	.049	(1.1)	.0187	.115	(3.1)	-.0104	-.063	(1.2)
15. Public employment service	.0073	.035	(0.6)	.0194	.102	(2.7)	-.0122	-.063	(1.2)
16. Private employment service	.0256	.065	(2.0)	-.0071	-.017	(0.1)	.0096	.027	(0.2)
17. Community groups	.0099	.043	(0.9)	.0177	.087	(1.9)	-.0051	-.024	(0.2)
18. Media ads	-.0182	-.086	(3.5)	-.0086	-.045	(0.5)	-.0024	-.012	(0.0)
19. Walk-ins	.0116	.049	(1.1)	.0187	.086	(1.9)	-.0029	-.013	(0.0)
20. Union referrals	.0263	.079	(2.9)	.0308	.082	(1.7)	-.0040	-.012	(0.0)

* Dependent variable = Percent Black in the job; Independent variables = one job recruitment method, Percent male in the job, and either Percent with no college in the job or Percent with college degree in the job.

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TABLE 21

How Employer Recruitment Methods are Related to Percent Hispanic in the Job, By Education Level and Sector*

Private Sector

Job Recruitment Method	High School Jobs (N=1925)			Some College Jobs (N=790)			College Degree Jobs (N=558)		
	b	B	F	b	B	F	b	B	F
1. Friends of employees	.0036	.021	(0.8)	-.0000	-.000	(0.0)	.0009	.011	(0.1)
2. School placement service	.0020	.011	(0.2)	-.0014	-.010	(0.1)	-.0001	-.001	(0.0)
3. Professional organizations	.0002	.001	(0.0)	.0005	.003	(0.0)	.0036	.039	(0.8)
4. Civil service	.0015	.005	(0.0)	.0178	.075	(4.4)	.0132	.088	(4.3)
5. Public employment service	-.0049	-.031	(1.9)	.0060	.047	(1.8)	.0000	.000	(0.0)
6. Private employment service	.0026	.010	(0.2)	.0083	.051	(2.1)	-.0032	-.032	(0.6)
7. Community groups	-.0062	-.033	(2.0)	.0135	.093	(6.7)	.0015	.014	(0.1)
8. Media ads	-.0084	-.053	(5.4)	-.0075	-.061	(2.9)	-.0028	-.034	(0.6)
9. Walk-ins	.0018	.010	(0.2)	.0165	.122	(11.8)	-.0019	-.021	(0.2)
10. Union referrals	.0015	.007	(0.1)	.0195	.099	(7.8)	.0050	.034	(0.6)

Public Sector

	High School Jobs (N=471)			Some College Jobs (N=258)			College Degree Jobs (N=292)		
	b	B	F	b	B	F	b	B	F
11. Friends of employees	.0125	.062	(1.8)	.0105	.060	(0.9)	-.0067	-.055	(0.9)
12. School placement service	-.0047	-.023	(0.2)	.0101	.060	(0.9)	.0078	.064	(1.1)
13. Professional organizations	.0069	.026	(0.3)	.0310	.136	(4.8)	.0050	.041	(0.5)
14. Civil Service	-.0216	-.158	(11.8)	-.0125	-.092	(2.0)	.0128	.131	(5.0)
15. Public employment service	.0023	.013	(0.1)	.0063	.040	(0.4)	.0114	.100	(2.9)
16. Private employment service	.0016	.005	(0.0)	.0176	.052	(0.7)	.0270	.129	(4.9)
17. Community groups	.0064	.034	(0.5)	.0185	.109	(3.1)	.0174	.139	(5.7)
18. Media ads	.0060	.035	(0.6)	-.0023	-.014	(0.0)	.0051	.044	(0.6)
19. Walk-ins	.0007	.004	(0.0)	-.0064	-.036	(0.3)	-.0035	-.026	(0.2)
20. Union referrals	.0095	.035	(0.6)	-.0126	-.040	(0.4)	-.0003	-.001	(0.0)

* Dependent variable = Percent Hispanic in the Job; Independent variables = one job recruitment method, Percent male in the job, and with Percent with no college in the job or Percent with college degree in the job.

TABLE 22

Percent of Workers Who Used Friends or Relatives
to Find Their Job, by Sector and
Worker's Race, Sex and Educational Attainment
(Sample size shown in parentheses)

	Private Sector		Public Sector	
	Blacks	Whites	Blacks	Whites
Males				
High School	.49 (226)	.55 (304)	.49 (69)	.41 (32)
Some College	.44 (147)	.47 (242)	.24 (63)	.41 (61)
College Degree	.33 (67)	.38 (188)	.48 (25)	.34 (55)
Females				
High School	.44 (242)	.45 (350)	.41 (104)	.35 (51)
Some College	.33 (164)	.33 (248)	.37 (83)	.35 (49)
College Degree	.27 (88)	.30 (173)	.36 (63)	.28 (99)

TABLE 23

Job Race Composition and Wage Rate for Black High School Graduates, By Use of Segregated and Desegregated Social Networks; Private Sector, Males and Females

	Use Friends	High School Race Comp.	Interpretation of (1) and (2)	Percent White of Job	Percent White of Firm	Hourly Wage Now	Hourly Wage Earlier
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Black Male, High School Graduates, Private Sector							
1.	NO	SEG	Not Use Black Friends	.534 (91)	.636 (84)	6.66 (91)	4.67 (100)
2.	NO	DESEG	Not Use White Friends	.504 (46)	.622 (43)	6.42 (46)	4.78 (49)
3.	YES	SEG	Use Black Friends	.488 (34)	.514 (32)	6.03 (35)	4.89 (36)
4.	YES	DESEG	Use White Friends	.547 (25)	.697 (26)	7.73 (23)	5.12 (31)
Black Female, High School Graduates, Private Sector							
5.	NO	SEG	Not Use Black Friends	.470 (87)	.549 (77)	5.08 (92)	3.79 (79)
6.	NO	DESEG	Not Use White Friends	.507 (53)	.580 (48)	4.81 (58)	3.62 (56)
7.	YES	SEG	Use Black Friends	.440 (41)	.530 (38)	5.42 (43)	3.38 (44)
8.	YES	DESEG	Use White Friends	.580 (17)	.688 (15)	4.82 (18)	3.32 (18)

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